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22 Sept. – 22 Dec. 1894.

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GOVERNMENT PRINTING OFFICE.
1894.

PUBLICATIONS OF THE BUREAU OF STATISTICS.

In addition to the monthly CONSULAR REPORTS, the following works have been published by the Bureau of Statistics:

"Labor in Europe," 1878, one volume; "Labor in Foreign Countries," 1884, three volumes; "Commerce of the World and the Share of the United States Therein," 1879; "Commerce of the World and the Share of the United States Therein," 1880–'81; "Declared Exports for the United States, First and Second Quarters, 1883;" "Declared Exports for the United States, Third and Fourth Quarters, 1883." "Cholera in Europe in 1884," 1885; "Trade Guilds of Europe," 1885; "The Licorice Plant," 1885; "Forestry in Europe," 1887; "Emigration and Immigration," 1885–'86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); "Rice Pounding in Europe," 1887; "Sugar of Milk," 1887; "Wool Scouring in Belgium," 1887; "Cattle and Dairy Farming in Foreign Countries," 1888 (issued first in one volume, afterwards in two volumes); "Technical Education in Europe," 1888; "Tariffs of Central America and the British West Indies," 1890.

The editions of all these publications except the one last mentioned are exhausted.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that at length in 1890 the Department decided to publish such reports in separate form to be entitled "Special Consular Reports." There are now the following "Special Consular Reports:"

Vol. 1 (1890).—"Cotton Textiles in Foreign Countries," "Files in Spanish America," "Carpet Manufacture in Foreign Countries," "Malt and Beer in Spanish America," and "Fruit Culture in Foreign Countries."

Vol. 2 (1891).—"Refrigerators and Food Preservation in Foreign Countries," "European Emigration," "Olive Culture in the Alpes Maritimes," and "Beet Sugar Industry and Flax Cultivation in Foreign Countries."

Vol. 3 (1891).—"Streets and Highways in Foreign Countries."

Vol. 4 (1892).—"Port Regulations in Foreign Countries."

Vol. 5 (1892).—"Canals and Irrigation in Foreign Countries."

Vol. 6 (1892).—"Coal and Coal Consumption in Spanish America," "Gas in Foreign Countries," and "India Rubber."

Vol. 7 (1892).—"The Stave Trade in Foreign Countries," and "Tariffs of Foreign Countries."

Vol. 8 (1892).—"Fire and Building Regulations in Foreign Countries."

Vol. 9 (1892 and 1893).—"Australian Sheep and Wool," and "Vagrancy and Public Charities in Foreign Countries."

Vol. 10 (1894).—"Lead and Zinc Mining in Foreign Countries" and "Extension of Markets for American Flour."

Vol. 11 (1894).—"American Lumber in Foreign Markets."

Of these Special Reports "Cotton Textiles in Foreign Countries," "Files in Spanish-America," "Malt and Beer in Spanish America," "Streets and Highways," "Canals and Irrigation," and "Fire and Building Regulations" are exhausted.

The Bureau of Statistics of the Department of State will be grateful for the return of any monthly or special numbers of Consular Reports.

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VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands§	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32;3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1891.				1892.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown.....	....	....	....	....	....	....	....	$0.20,3
	Silver florin....	$0.38,1	$0.36,3	$0.36,3	$0.35,7	$0.34,1	$0.32,8	$0.32	....
Bolivia..................	Silver boliviano.	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Central America...	Silver peso.......	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
China†..................	Shanghai tael.	1.13,9	1.08,5	1.08,7	1.06,8	1.02,1	.98,2	.95,8	.91
	Haikwan tael..	1.27	1.20,9	1.21	1.18,9	1.13,7	1.09,3	1.06,7	1.01,3
Colombia..............	Silver peso.......	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Ecuador................	......do...............	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
India.....................	Silver rupee......	.36,6	.34,9	.35	.34,3	.32,8	.31,6	.30,8	.29,3
Japan‡..................	Silver yen........	.83,1	.79,2	.79,3	.77,9	.74,5	.71,6	.69,9	.66,4
Mexico..................	Silver dollar.....	.83,7	.80	.80	.78,5	.75	.72,2	.70,4	.66,9
Peru......................	Silver sol.........	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Russia§................	Silver ruble......	.61,7	.58,8	.58,8	.57,8	.55,3	.53,1	.51,9	.49,2
Tripoli..................	Silver mahbub..	.69,5	.66,3	.66,4	.65,2	.62,3	.60	.58,5	.55,5
Venezuela ‖...........	Silver bolivar....	.15,4	.14,7	.14,7	.14,5	.13,8	.13,3	.13	.12,3

Countries.	Monetary unit.	1893.				1894.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia.............................	Silver boliviano..............	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5
Central America...............	Silver peso........................	.61,3	.61	.60,4	.53,1	.51,6	.46,5
China†.............................	Shanghai tael................	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6
	Haikwan tael.................	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5
Colombia..........................	Silver peso........................	.61,3	.61	.60,4	.53,1	.51,6	.46,5
Ecuador............................	.........do..........................	.61,3	.61	.60,4	.53,1	.51,6	.46,5
India.................................	Silver rupee.....................	.29,2	.29	.28,7	.25,2	.24,5	.22,1
Japan‡.............................	Silver yen..........................	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1
Mexico.............................	Silver dollar......................	.66,6	.66,2	.65,6	.57,7	.56	.50,5
Peru..................................	Silver sol...........................	.61,3	.61	.60,4	.53,1	.51,6	.46,5
Russia§............................	Silver ruble.......................	.49,1	.48,8	.48,3	.42,5	.41,3	.37,2
Tripoli..............................	Silver mahbub.................	.55,3	.55	.54,5	.47,9	.46,5	.41,9

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* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Desiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs. full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0267 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Desiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs. full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
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Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0267 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1½ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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USES OF THE EUCALYPTUS TREE.

The following reports are in reply to a Department instruction, sent at the request of Mr. Abbot Kinney, Lamanda Park, Cal., to consular officers. The instruction covered (1) the limit of cold endurance of the *Eucalyptus*, and (2) the hygienic effects of *Eucalyptus* plantations, especially in regard to malaria.

Reports upon the *Eucalyptus* have appeared in previous CONSULAR REPORTS, as follows: The "Eucalyptus Globulus," No. 8, p. 890, and No. 26, p. 403; the "Eucalyptus and Malaria in Italy," No. 38, p. 735; the "Eucalyptus for Street-Paving in Australasia," No. 154, p. 257, and No. 164, p. 49.

The following extract from pages 125 and 126 of the Handbook of Experiment Station Work, 1893, Department of Agriculture, is of interest in this connection:

> *Eucalyptus trees.*—Several species of Australian gum trees (*Eucalyptus*) have been planted in California (report 1878–'79, page 75; report 1885–'86, page 120; report 1888–'89, page 48). The blue gum (*E. globulus*), on account of its resistance to drought and marvelously rapid growth, has found "universal acceptance for relieving the dreariness of treeless landscapes in the west range, and for firewood, railroad ties, etc." Yet the soft, spongy character of its wood renders it unsuited to meet the want in California of a wood "that will make a hoe handle, or a wheel spoke, or a plow beam." It is thought, however, that its merits as a timber tree are not sufficiently appreciated. The red gum (*E. viminalis*) is next in general adaptation. Of other species, the noted jarrah (*E. marginata*), of Western Australia, has been tried on the station grounds for a number of years, and also distributed to a limited extent, and it has thus been proved, beyond doubt, that large areas, especially in southern California, near the coast, would be well suited to the growth of this tree. "The chief value of the jarrah lies in its extremely hard wood, which is not attacked by any known borer."

FRANCE.

The *Eucalyptus*, comprising its various species, is a tree which is found chiefly in the forests of Australia, though it is also met with in both America and Europe.

In Australia, the gummy species assumes gigantic proportions. It has tough, leather-like leaves, covered with transparent spots, and produces a yellow flower. The leaves grow in a vertical direction, offering little shade, but exposing both surfaces to the sun's rays.

The distinctive character of this species lies in the somewhat curious envelope that incloses the flower before its budding, and which drops off as it grows in size. The wood of the tree is hard and resinous, forming excellent timber for building purposes and for the making of ships and furniture, and possesses great durability. These qualities have led to the introduction and attempted culture of the tree in Europe; but it is only in the regions of the extreme south, beneath the forty-fourth parallel of latitude, or in northern Africa that the *Eucalyptus* thrives.

Even on the littoral of the Mediterranean, the winters are frequently rigorous enough to be fatal to tropical vegetation.

The commonest variety to be seen in Europe is the *gommier bleu* (*Eucalyptus globulus*). It has an exceptionally large and strong root, a gray bark, angular branches, produces a button-shaped berry, and grows to the height of 50 yards or more. An English botanist—Mr. Pemberton Walcott—has even found a *Eucalyptus* 400 feet in height, and large enough in circumference to contain four men on horseback. In Europe this species is frequently observed in sandy soils or near the seashore. Its flowers are of the most beautiful variety, shaped like a plume, and exhale a strong balsamic, but not disagreeable, odor.

The *Eucalyptus gigantesque* or *robuste*, which grows to even a greater height than the *globulus*, has a reddish wood impervious to insects and has been given the name of Dutch mahogany.

The resinous *Eucalyptus*, still another species, may be distinguished by its flexible, drooping branches, resembling, to a certain extent, the weeping willow. Its bark is thick and easily detached, and is used by the Australians for roofing their huts and cabins. From its trunk oozes a red saccharine sap, rich in gum and sugar. If the tree is tapped, like the American maple, it will yield as much as 50 gallons of this liquid. Its leaves, when submitted to distillation, produce an essential oil closely analogous to oil of cajeput. The fruit is used in Australia as a spice.

In addition to the *Eucalyptus poivré*, we find the oily variety, a tree of but medium height, but with large, spreading branches. Its roots, a portion of which lie above the ground, are also large and extensive, and, when cut, yield a clear white fluid agreeable to the taste, thirst-quenching, and palatable.

Other varieties are the *Eucalyptus* with heart-shaped leaves, that with oblique leaves, and the *Eucalyptus corymbosa* and *pomicèle.*

J. M. WILEY,
Consul.

BORDEAUX, *March 25, 1894.*

The *Eucalyptus* was discovered and named by L'Heritier, a French botanist, in Van Diemen's Land in 1788. The history of its appearance in France is exceedingly vague, but it is believed that it was first cultivated in the gardens of Malmaison. A work by Bonpland, written in 1813, describes a tree called *Eucalyptus diversifolia* as flourishing at Malmaison, and a little later the botanical gardens at Toulon received a number of specimens from Malmaison. Previous to 1860, however, but little was known of the tree, and it existed in Europe solely as a botanical specimen. At present it is to be found in almost every public garden and square, and fine specimens of numerous varieties flourish along the shores of Provence, from Toulon to Genoa, and even down to Pisa, where the soil is favorable.

As to the degree of low temperature which the *Eucalyptus* is susceptible of enduring, those most familiar with the tree—particularly Felix Sahut, the best European authority—affirm that not only the winter minimum must be taken into consideration, but relative atmospheric humidity and other circumstances peculiar to the locality. Thus, in 1864, M. Sahut states, with a temperature of 10.4° F., out of fifty-three Australian species planted near Montpellier, twenty-eight were completely destroyed, nine suffered more or less severely, and only sixteen came out unharmed. Other experiments, however, made under different local conditions, have shown that some of these species, in certain cases, withstood lower temperatures, while under other conditions they suffered more when the cold was not so severe.

About seventy species of the *Eucalyptus* have been tried in southern France, and it has been found that several kinds capable of resisting cold most successfully could not exist in the soil of Provence. In a general way, it may be stated that some species that have been thoroughly acclimated in southern Europe are capable of resisting a temperature as low as 8.6° F.; but successful cultivation of desirable sorts can not be hoped for in localities where the winter maximum of cold exceeds 21.2° to 17.6° F. The species most common in the neighborhood of Marseilles is the *Eucalyptus globulus,* but some other varieties may be seen; and at Hyères, where the most pronounced success in the European cultivation of the tree has been secured, a number of species seem to have attained perfect acclimatization. The following varieties have been tested and proven capable of enduring a degree of cold as low as 21.2° to 17.6° F.: *E. alpina, urnigera, coccifera, coriacea, cordata, gunni, vernicosa, and viminalis.*

It should be stated again that there are a number of very valuable species, capable of enduring a degree of cold in excess of either named above, which do not flourish on European soil; and the varieties successful here might prove, for the same reason, incapable of development in the United States.

For the species here given a volcanic, granitic, or, at least, silicic soil is necessary.

It may not be out of place to add that the cultivation of the *Eucalyptus* is receiving much attention from thoughtful men wherever, in Europe, climate and soil are of a character adapted to its growth. It develops rapidly, and, by reason of its splendid foliage of many-shaped leaves and, in some instances, flowers of rare beauty and fragrance, it is more highly prized for mere landscape adornment than other trees devoted to this purpose. But, as wider information is secured, it is discovered that the industrial uses to which the various products of the tree may be applied are of endless variety and very great value. To say nothing of the ordinary commercial purposes for which the wood is employed, such as carriage-building and cabinetmaking, the bark is extensively consumed in the tanning industry, while the fibers are widely used in the manufacture of cordage and mats. For this particular purpose, the most desirable species are *E. tetrodonta*, *microcorys*; *obliqua*, *odorata*, and *amygdalina*.

The following species are devoted to the manufacture of packing paper: *E. corymbosa*, *fissilis*, *rostrata*, *stuartiana*, *longifolia*, *leucoxylon*, and *gonocalyx*. The bark from the *corymbosa* is also largely used in the manufacture of blotting and filter paper, while another species, known as *sideroxylon*, is valuable for the production of vegetable naphtha.

From a distillation of the leaves various essences utilized by perfumers and liquor manufacturers are derived; and it is learned that in Australia these particular products are esteemed of great value for purposes of illumination. The species especially so adapted are *E. globulus*, *gonocalyx*, *odorata*, *sideroxylon*, and *woolsii*, and of these, the *gonocalyx* in particular, on account of the brilliant and inodorous flame.

Finally, it may be stated that new discoveries are being constantly made with reference to the medicinal properties of the leaves and bark of the tree, while the essential oils produced from the *Eucalyytus* possess the highest antiseptic qualities.

It is regretted that additional information is not obtainable as to the extreme degree of cold which may be endured by other species than those indicated above, but there are no available data upon which to base an acceptable opinion. Further inquiries will be made, and, if facts of sufficient value are secured, they will be stated in a subsequent report.

CLAUDE M. THOMAS,
Consul.

MARSEILLES, *March 1, 1894.*

It is said there are no less than one hundred and fifty varieties to be found in the native home of the *Eucalyptus*. Among the best and most useful of the varieties which are known are the "colossus," or "giganticus," enormous trees said to reach the height of from 300 to 350 feet, with diameter proportionately large. Another most useful variety is the "resinefer," which furnishes for medicinal purposes the "kino," or "rhatany," a valuable astringent.

The *alpina*, *rostrata*, *amygdalina*, *coriacea*, *globulus*, *gunni*, *piperita*, *urnigera*, and *polyanthemus* are the best known of the other varieties. The native home of these trees is Australia and the Indian Archipelago; but within the past twenty years the remarkable properties and qualities of the *Eucalyptus* have attracted the attention of the world, and it is now to be found in largely increasing forests and plantations in the Argentine Republic, southern France, and Algeria. It is to be found also in Italy, Spain, and on the coasts of Corsica, Portugal, and Cape Colony.

The *Eucalyptus* seems destined to revolutionize silva culture in the countries mentioned, not only on account of the many remarkable properties of the tree—its resins, its wood, and its rapid growth—but also its great power of absorbing enormous quantities of water from wet and swampy lands, drying them, and rendering them fit for cultivation, as well as its tendency to thus eliminate malarial conditions from the lands where it grows. The *Eucalyptus* grows with wonderful rapidity, developing within three or four years into large trees. One within my immediate neighborhood, planted by a friend less than four years since as a little shoot about the size of a man's thumb, is now more than 30 feet high, after having been constantly kept trimmed down, and nearly one foot in diameter. Trees of great size in this portion of France are said to be less than 20 years old. In southern France, it has been planted with remarkable results, and is now fully appreciated for its various qualities. In the Alpes-Maritimes, it seems especially to flourish.

The most remarkable species is the one found in southern France, in the neighborhood of Nice, Cannes, Toulon, Marseilles, and various other localities, where there are now large plantations of these trees of great size; and where they prosper wonderfully and grow with a rapidity which seems almost incredible, forests of large trees being the growth of seven or eight years. This species is known as the *Eucalyptus globulus*, or "blue-gum tree," or the "fever tree." This tree was discovered by Labillardière in Van Dieman's Land, and is now completely naturalized in Algeria, in the Riviera of France, and also in Spain. This tree supports a degree of cold said to be as low as 32° F., and even as a seedling here, the information given me by natives is, "it does not fear the cold." This expression, however, it should be borne in mind, is the utterance of those who live in a sunny clime, where at no time are there greatly prolonged spells of severe cold.

A remarkable specimen of the *Eucalyptus* is near this consular office, on the Place Masséna. It is a tree of great size, with enormous branches, giving widespread shade and having the appearance of great age, though in reality it is a newcomer to Nice. It sheds a resinous and pleasant fragrance, indicative of its medicinal properties. So attached are the public of Nice to this tree, that when it was proposed to cut it down to enlarge the street leading into the Quai Masséna, there was a general protest against so doing, and, upon a vote being taken by one of the French newspapers, there was an overwhelming majority against its removal. This tree belongs to the Australian species called "colossus," or "giganticus," and it is said to be one of the largest on this coast. The *Eucalyptus* is rich in an essential oil that is much used and greatly prized in medicine and pharmacy. In throat inflammations, sprays or inhalations of eucalyptol are constantly advised by professional men, and toilet vinegar therefrom is regarded with great favor by invalids for many purposes. The various preparations from the *Eucalyptus* are supposed to have antiseptic and antifebric powers. The bark contains a great deal of tannin—which is a most valuable astringent—and is used here to tan skins. The wood of the tree is considered superior to teak, and furniture made of it is not liable to the attack of insects. It is very hard and rather difficult to cut with ordinary tools.

The *Eucalyptus* furnishes telegraph poles, railway ties, etc., and is used in the construction of various parts of ships.

Among other medicinal properties of the *Eucalyptus*, besides being antiseptic, it is anticatarrhal, and some medical authorities regard it as antiphthisic. Dr. Thomas Linn, an American physician who has had large experience and practice in France, tells me that there are medical men who claim that cures of consumption have taken place by injection of eucalyptol oil, or its active principle, either alone or combined with other drugs.

To illustrate the firm hold which this tree and its health-giving properties have upon the popular mind in this department, I am told that when these trees are trimmed in the early spring days in the Jardin Public, in the gardens of private villas, and on the streets, the branches are eagerly sought by all classes of people, who hang them with their cones on the walls of their bedrooms with the view of keeping off fevers and of getting rid of moths, mosquitoes, and other insects. Many persons make rosaries of the burrs and strings of beads, which they wear around their necks.

The *globulus*, or "blue-gum tree," does not require much moisture; in fact, it grows in dry soils and in sandy or clayey soils, provided they are cool. It will grow only in hothouses in the climate of Paris, and will not bear great cold.

The *amygdalina* is known as the "peppermint tree." It grows to a considerable height, and is the only species which bears the full winter climate in the northern part of Italy in the open air. The *rostrata*, or "red-gum tree," has many qualities in common with the *globulus*, but it grows better than the latter in wet and marshy lands. The *gigantea* or *giganticus*, or "colossus," has a stringy bark. It was unknown in Europe anterior to 1856, when Mr. Ramel sent some seeds to France, which were sown in Algeria and the Mediterranean regions. There are now forests and plantations of these trees in the various countries of southern Europe, Africa, etc. While this tree is strong and hardy, it is not thought it would flourish where the thermometer indicates a lower degree than freezing point. But it must be borne in mind that when the "freezing point" is mentioned here, it means only that thin ice is formed for a short time and is melted during the middle of the day, or, at all events, that the thermometer remains at that point but a very short time. The hardiest species of the *Eucalyptus* are the *alpina* and *coriacea*. Friends from Australia, with whom I have recently conversed on this subject, tell me that they grow at great altitudes on the mountains of Victoria—say between 4,000 and 5,000 feet above the sea—which would indicate great endurance of cold. The *gunni* also endures considerable cold, though not as much as the two last mentioned, which are said to be seen at times amidst snow on mountain sides.

The leaves of the *Eucalyptus* are filled with glands containing essential oil, and when they are submitted to distillation this oil is obtained, which has a pleasant and penetrating balsamic odor. The flowers, fruit, and bark are also filled with these odoriferous glands, but their odor differs from that of the leaves. In fact, so strong is the odor given from leaves and all parts of the tree that, under ordinary atmospheric conditions, the air around is impregnated therewith. This odor probably contributes to the popular confidence in the powerful qualities of the *Eucalyptus* as a febrifuge, and, added to its known power of drying wet lands, aside from its many valuable commercial and medicinal qualities, causes its rapid spread and cultivation.

It is said that actual results appear to prove the usefulness of the *Eucalyptus* in eliminating malarial conditions due to marshy lands. In regard to endurance of cold, while I have given the best information obtainable, and while, doubtless, the tree will stand considerable cold, even at times to freezing point, it must be borne in mind that this tree thus far has flourished only in the temperate and sunny climate of mild winters on the coasts of the Mediterranean countries. Since it is an evergreen, always in full and beautiful foliage, it is quite natural to suppose that in our own country it would flourish only, as here, in the mildest and warmest sections. I have little doubt, however, that in the southern parts of South Carolina, Georgia, and in the Gulf States, it would find a genial home. Perhaps the hardier species could be introduced with confidence into some of the States further north.

WILBURN B. HALL,
Consul.

NICE, *February 15, 1894.*

ITALY.

The *Eucalyptus* tree, in its great variety of species, is supposed to have two distinct qualities: (1) the power of drying moist soil, through the powerful vitality of the plant, and at the same time causing no decrease in vegetation; (2) the property of distributing a balsamic atmosphere, believed to be healthful to the human body and strongly counteracting the injurious effects of a malarious climate.

It is this latter quality which has brought the *Eucalyptus* into such prominence in Italy, and has been the cause not only of the planting of thousands of trees by private individuals and public corporations, but of its receiving the indorsement of the Italian Government as well.

Whether the plant does absolutely contain such a healthful quality as many attribute to it, has always been and still is a question in the minds of many who have given the subject intelligent thought and systematic experiment. That the planting of these trees has met in some districts with a degree of success in allaying the ravages of malaria, there would seem to be little doubt. It is not improbable, however, that the natives of the malaria-stricken districts of Italy, ever ready to grasp at any new idea which, if carried out, would improve the health of the surrounding country, took up the planting of the *Eucalyptus* with too much avidity, or at least overestimated its beneficial effects. But it is true that the tree has of late years been adopted as the most effective remedy against malaria. In 1875 the neighborhood of the railway station at Ventimiglia was impregnated with fever, and 777 of the *Eucalyptus globulus* were planted around the station and along the banks of the neighboring stream—Roia. Within a few years the malarial fever disappeared, and it is believed that the influence of these trees, through the perfume exhaled from their leaves, especially at night, contributed largely to the disappearance of the fever.

From 1878 to 1880, about 10,000 *Eucalyptus* trees were planted by the Adriatic Railway Company at its stations and along its different lines, and the experiment has proved satisfactory. The same company subsequently established a large nursery at Nola, in the province of Caserta, where the trees thrived, and the plantation is regarded with much favor.

There are also many nurseries of the *Eucalyptus* tree due to private enterprise. Prince Troubetzkoi introduced eight different varieties of *Eucalyptus* at his villa at Intra, on the Lago Maggiore. All promised well when, during a rigid winter, six species were killed, while the *resinifera* and *amygdalina* species were spared. The latter, which were planted on the hillside, grew with great vigor, and measure 55 feet in height and 5½ feet in circumference at 3 feet from the ground. They have successfully dried the surrounding soil. At Campo Romano, near Viareggio, the Marquise Garzoni has an extensive plantation of *Eucalyptus* trees, numbering thirty-six varieties. Here, the *globulus* and the *resinifera* are the most successful in resisting the climatic changes. Baron Vincenzo Ricasoli, senator of the Kingdom, devoted himself to the culture of the *Eucalyptus* tree, having no less than sixty varieties in his nursery. Many of these failed; but the *resinifera*, *urnigera*, and *globulus* grew with great vigor.

The most extensive attempt made in the culture of the *Eucalyptus* tree was effected by the Trappist monks in the Campagna Romana, one mile distant from Rome. In the locality known as the "Three Fountains," there is an ancient convent, where the malaria is so prevalent that the place is commonly known as "the grave." A few monks used to go to this place from Rome every morning after the sun had cleared away the fog, plant as many of the *Eucalyptus globulus* as they could during the day, and return to the city in the evening. In 1877, seven years after they had first begun the planting of these trees, the monks took up their permanent residence at the convent, owing to the greatly improved condition of the climate. So great, indeed, was the change for the better, that a committee appointed by the Government, having satisfied itself that by the gradual development of groves of the *Eucalyptus* tree malarial fever might be lessened to a considerable degree, if not entirely exterminated, proposed to offer a reward for the culture of this plant. Over 55,000 *Eucalyptus* trees are planted at this place to-day, the loss averaging about two plants in every hundred; but, in spite of expectations, malaria is still prevalent, although in a much less degree than formerly.

At present, Italy has at least 100,000 *Eucalyptus* trees under successful cultivation, 30,000 of which are due to the railway companies and 70,000 to private enterprise.

In this district, the planting of the *Eucalyptus* tree has received but scant attention, as the plant does not thrive well in this climate, and, with the exception of certain limited neighborhoods in the southern extremity of the district, malaria is happily not prevalent. So far as I have been enabled to ascertain, however, the natives of this district regard with small favor the *Eucalyptus* tree as a protection from malaria.

The following table shows the leading characteristics of the principal species of the *Eucalyptus* plant in Italy, and annexed is a map* showing the districts where malaria is most prevalent:

Leading characteristics of principal species of the Eucalyptus *plant in Italy.*

Description.	Renanthereæ.		Orthanthereæ.	
	Amygdalina.	Resinifera.	Globulus.	Urnigera.
Leaves	Thin; transparent; equally green; veins not much spreading; oil dots copious.	Much paler underneath; vines very spreading.	Thick, elongated; equally green.	Scattered; long stalked; almost lanceolar; crenulated; equally dark green; oil glands pellucid.
Umbels	Solitary	Solitary		Solitary.
Flowers	Small	Stalk compressed	Mostly solitary; of stalks and stalklets, almost none.	Stalks elongated; stalklets rather short.
Lid	Almost hemispheric.	Conical, acute	Double; the inner crown-shaped.	
Fruits	Truncate ovate	Semiovate	Large, hemispheric, warty, rough, and angular.	Ellipsoid, urn-shaped.
Border	Depressed	Depressed, narrow	Broad, depressed	Compressed; angular at the edge.
Valves	Inclosed	Exserted, pointed	Exserted, convergent.	Deeply inclosed.
Remarks	Inophloiæ, Leiophloiæ.	Rhytiphloiæ	Leiophloiæ	Leiophloiæ.

CHARLES BELMONT DAVIS.
Consul.

FLORENCE, March 16, 1894.

Before considering the hygienic effects of *Eucalyptus* plantations with reference to malaria, it may not be irrelevant to present the views of the distinguished Italian professor Tommaso Crudeli, now senator of the Kingdom, on malaria. He has made exhaustive investigations as to the origin of the scourge, and was the first (1879), together with Klebs, to discover the microbe of malaria—the *Bacillus malariæ.* In 1885 Crudeli published his important and interesting work "The Climate of Rome." It is indispensable, he says, to form an exact idea of malaria and of the conditions in which it is produced, to free the mind from the prejudice that has taken possession of the medical fraternity, as well as of the laity, that malaria can only be produced from stagnant water, resulting from the putrefaction of dead vegetable and animal organisms contained therein. It was thought that a step forward had been made when the morbific ferment that produces malarial infection was called paludine miasma; but the reverse was true. Italians use the word malaria to indicate the specific agent of intermittent and pernicious fevers. Italy has enjoyed the unenviable privilege of sending this word around the world and causing it to be received into every language. It has at least the advantage of not prejudicing any opinion with regard to the nature and production of this specific agent. It only specifies an established fact, namely, that this agent diffuses itself in the atmosphere, making it capable of infecting human organisms into which it may have been introduced by respiration.

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*Map filed in Bureau of Statistics.

Malaria is produced in the soil and not in water. The *sine qua non* of the production of malaria is the presence of malarial ferment in the soil. Soils that do not contain this ferment may possess every possible form of saturation by water, which, in turn, may contain all possible forms of putrefaction, but there will be no production of malaria. Water is undoubtedly an indispensable factor of this mischievous product, because if malarial soil is not kept moist during warm weather, it is incapable of producing malaria. Hence, all other conditions being equal, malarial soils containing stagnant water are, by right, considered the most dangerous, because in them is always found the humidity indispensable to the hurtful product, even during the driest summers. But it is by no means necessary that the soil should be marshy in order that malaria shall be produced. Were such the case, Italy would be a much more fortunate country than it is, because at least two-thirds of its malaria-producing soil would be perfectly healthy. But little humidity is required to awaken malaria in soil that contains its germ, and we frequently meet with soil in valleys, on hillsides, and on mountains whose surface is arid during summer, but gives off malaria, owing to the slight humidity held in the subsoil. Nay, it can happen, and often does happen, that accumulations of water on the surface of a malarial soil prevent the specific poisoning of the atmosphere. This always happens when the water covers the infected soil uniformly. A film of water interposed between the malarial-producing soil and the atmosphere operates as an obstacle to malarial germs and protects the atmosphere of the locality from contamination.

Malaria-producing soils are to be met with in nearly every part of the globe. With the exception of localities situated beyond the polar circles, no part of the globe is known in which malaria may not make its appearance in a greater or lesser degree. What is worse is that, with the exception of solid rock, we know of no soil that can be, *a priori*, declared to be incapable of generating this infection of the atmosphere. Malaria is produced from soils of the most varied composition and of the most varied exposure—in low places rich in water and organic substances, in soils of volcanic origin, as well as in sedimentary soils of every geological period, and even in soils composed of sandy quartz. Next to the septic ferment the malarial ferment is, of all the disease-breeding ferments, the most widely disseminated, and that which most readily finds conditions suited to its development and propagation. What is this ferment? Prof. Crudeli declares it to be an organism, the microbe of malaria, the *Bacillus malariæ*. This organism dwells in the soil; but a minimum temperature of 68° F., a certain amount of moisture, and the action of the atmosphere on the soil in which it is contained are necessary for its development; so that it is possible to prevent its spreading by interrupting the communication of the soil with the atmosphere, either by covering it with water or by grasses the roots of which would constitute, as it were, an impervious mat.

Prof. Crudeli remarks that sections of the city of Rome, which were covered by parks and gardens a few years ago, and which were very malarious, have become very healthful, owing to the lands being now covered by buildings and the new streets paved, all contact of the air with the soil being thus shut off.

From the days of Varro, it has been surmised that this ferment was derived from a living organism; but it was only in 1879 that Crudeli and Klebs took up the investigation of a great number of malarial soils, dry as well as marshy. They cultivated the very smallest organisms found in these soils, experimenting with the products of these cultures on animals; analyzed the blood and organs of men and animals infected with malaria, and established, beyond all doubt, the existence of a living parasite. This parasite attacks the red globules of the blood and destroys them after having produced in them a series of characteristic alterations which indicate with certainty the existence of malarial infection.

The effects of malaria are suspended by covering the ground with buildings or by sowing the land in grasses, thus preventing the contact of the atmosphere with the soil, and by drainage, that is, by removing the moisture from the soil.

But, as man does not control the rain, it is evident that after a rain even a drained soil will give off malaria, unless that soil is cut off from contact with the atmosphere. In order to drain certain portions of the Roman Campagna, the experiment has been tried of planting trees that would absorb a great quantity of water from the soil. With the preconceived idea that malaria is due to putrid decomposition in marshy ground, it has been proposed to make this attempt by means of the *Eucalyptus*. It was thought that these trees of rapid growth would dry up marshy lands and destroy, at the same time, by means of the aroma of their leaves, all miasmatic emanations.

Up to date (1886) not a single instance of hygienic improvement by the sole means of *Eucalypti* has been ascertained, but the possibility of so doing is not denied. It can be admitted that these trees sometimes prove useful in certain malarial soils. I frankly maintain, however, that frequently they are of no use whatever, and that it is well to guard against exaggerations that often blind the judgment.

It would have been possible to avoid these exaggerations and the disappointments which followed as a consequence if, instead of regarding these plantations from a theoretical point of view, the public had begun by studying their results in the very home of the *Eucalypti*. It would then have been known in time that even in the southern hemisphere, where the *Eucalypti* thrive better than with us, there are forests of *Eucalypti* in which malaria reigns supreme, as has been stated by Prof. Liversidge, of the University of Sydney. In Italy, although the newspapers had persuaded everyone that the farm of the "Tre Fontane," near Rome, had become healthful by means of the *Eucalypti*, it proved a disagreeable surprise to learn of a sudden outbreak of malaria in 1882 that caused much sickness among the farm hands, while the rest of the Campagna remained particularly healthful.

The experiments with the *Eucalypti* at "Tre Fontane" are interesting and instructive. On the road to Ostia, at about 3 miles from Rome, is situated the abbey of the "Tre Fontane." There is a monastery of Trappist monks there, who, for many years, have been endeavoring to improve the land adjacent to the monastery by means of setting out extensive vineyards, draining the soil, and planting the *Eucalyptus*. It was reported that the hygienic condition of the locality had been much improved, and this improvement was ascribed by the public and the Government to the planting of the *Eucalyptus* by the Trappists; hence it was decided to extend the setting out of these trees.

To facilitate this experiment, the Government in 1880 established an agricultural colony of penitentiary convicts and put them in quarters near the monastery, that is, on that part of the farm supposed to have already been improved by the *Eucalypti*. The convicts were surrounded by hygienic conditions far superior to those of the agricultural laborers of the Campagna, and, notwithstanding this, nearly all the convicts were taken down with malarial fever, more or less severe, in 1880. The Trappists started the setting out of the *Eucalytus* in 1870.

During the summer and autumn of 1882, all of the inhabitants of the "Tre Fontane" were attacked. The Trappists, it would seem, suffered from slight attacks, but all suffered. Some of the convicts had slight and some severe attacks. Nearly every guard had a severe attack; the guards had all to be changed. There were no deaths, because medical assistance was at hand. The fever-stricken patients were well cared for in one of the hospitals of Rome.

In January, 1883, Prof. Crudeli (then a deputy, now a senator) called upon the Government to suspend all work during the sickly season. He had noticed that the guards suffered more from malaria than the convicts. He thinks that the convicts, while at labor, threw off some of the evil effects of the malaria, while the guards, remaining stationary, inhaled and retained in their systems more malaria than the convicts.

If to the reasonable doubts as to the hygienic effects of the *Eucalypti* is added the uncertainty of their thriving, it follows that all this enthusiasm for the *Eucalyptus* tree is in no wise justified. The tree is most capricious. As it is full of sap during the winter of our hemisphere, it is frequently killed by a freeze, by late spring frosts, and by other causes that botanists have not yet fully determined. In localities where the winters are mild and the soil deep, this tree grows too rapidly and is easily split by winds of moderate velocity. It should also be borne in mind that it is frequently very expensive to grow this tree. For instance, if the soil be very wet, it is necessary to drain it; otherwise the roots of the tree rot. If, on the other hand, the soil be very stiff, it is necessary to dig deep holes to make room for the roots, which holes require to be drained to prevent water from standing in them and rotting the roots. It is, therefore, more prudent to hold to methods less uncertain, and when the condition of a locality indicates the advisability of planting trees for the absorption of moisture, it is better to set out trees belonging to our hemisphere. It is less expensive, and there is less likelihood of the trees dying.

One of the most generally accepted theories is that forests produce malaria independently of the quality of the soil which they cover. On every hand we meet with forests in which the production of malaria is most abundant, and we find on every hand vast tracts of country which remained uninhabited by reason of malaria so long as they were wooded and that became more or less completely healthful upon being cleared. These facts are interpreted as showing that malaria is produced in the forests by the putrefaction of the leaves, branches, and dead insects that become accumulated on the ground and there slowly decompose. But such an explanation can not stand, because, were such the case, we ought to meet with malaria in every forest of the world, where decomposition of organic detritus occurs, whereas, on the contrary, many forests are free from malaria. Forests are factors of malaria in an indirect way only; they do not produce it themselves, but favor its development whenever they cover lands that are malarial. They intercept the solar rays, and hence prevent an active evaporation from the soil, so that it retains a great deal of humidity in the warm season. If the soil does not contain the malarial ferment, the forest is not infected and *vice versa*. Malarial forests are frequently met with in nature, and the clearing away of these forests has rendered the localities occupied by them much more healthful, if not entirely so.

Dr. Montechiare, a practicing physician of Rome who for years was physician to the penal colony at "Tre Fontane," tells me that his experience justifies him in declaring that no beneficial result against malaria has been derived from the planting of the *Eucalyptus*. The monks set out no less than 50,000 trees on a few acres. Had the efficacy of the *Eucalyptus* proven real, the entire settlement of the "Tre Fontane" would have become a veritable Eden on account of its wholesome, balsamic air, which has by no means been the case. In 1870, Dr. Montechiare, being in charge of St. John's Hospital, experimented with all the preparations of *Eucalyptus* against malarial fever, and found that not one lowered the temperature of the patient by a tenth of a degree. The only value of the elixir of *Eucalyptus* consists in the alcohol that it contains. The efficacy of the *Eucalyptus* for the improvement of the air is no greater than that of the elm, pine, and mulberry. If it recommends itself by its rapidity of growth, the trees just mentioned recommend themselves by being hardier and more easily grown.

Prof. (now senator) Torelli has also written on the subject of the *Eucalyptus*. He sums up by declaring that the much-vaunted merits of the *Eucalyptus* have not been established.

The *Eucalyptus* is killed by the cold when the thermometer marks 12° F. below freezing. The varieties that have shown the greatest resistance to cold are the *globulus* (blue gum), *viminalis* (swamp gum), *rostrata*, *robusta*, *meliodora*, *resinifera* (red gum), *paniculata*, *saligna*, *coriacea*, and the *corunta*.

The *globulus* is considered by all as the variety that possesses hygienic properties in the highest degree, the *resinifera* coming next. Marquis Garzoni has succeeded in growing the prodigious number of ninety-three varieties on his farm near Viareggio, Italy.

WALLACE S. JONES,
Consul-General.

ROME, *March 19, 1894.*

PORTUGAL.

I am under obligations to Senhor A. Pereira Continho, chief of the botanical division of the Polytechnic School, Lisbon, for such information on the *Eucalyptus* as it is in his power to supply as regards Portugal. The following is a translated abstract of Senhor Continho's memorandum:

> The coldest spots in Portugal where I have seen the *Eucalyptus globulus* and *Eucalyptus robusta* are in the district of Guarda, where the winter temperature falls to 2°, 3° C. or more below zero (20° and 28° F. above zero).
>
> The *Eucalyptus globulus* is the species most cultivated in Portugal. It is used not only as an ornamental tree, but also for industrial purposes.
>
> The next most frequently grown is the *Eucalyptus robusta*. Many other species are cultivated, but more properly speaking as botanical curiosities or for ornament. I will mention the following: *E. rostrata*, *E. cordata*, *E. viminalis*, *E. risdoni*, *E. cornuta*, *E. hemiphloia*, *E. tenterfield*, *E. longifolia*, *E. hæmastoma*, *E. colossea*, *E. gomphocephala*, and *E. citriodora.*

J. B. WILBOR,
Vice-Consul.

LISBON, *February 20, 1894.*

SPAIN.

The *Eucalyptus* was not known to Europeans until the end of the last century. Some Dutch explorers discovered its existence in Australia, but to the French is due the honor of introducing it to the world, for it was the French botanist Labillardière who first examined it scientifically while accompanying the expedition which was sent in the first decade of this century to find the celebrated explorer La Perouse. This expedition landed on the coast of Tasmania, and there beheld large forests of the "best of trees." His report, however, did not attract much attention, and it was not until the year 1856 that M. Ramel, who also had made a careful study of the tree in Australia, impressed upon the minds of his contemporaries that the tree merited the highest praise, not only on account of its peculiar properties, but also because of its adaptability to the climate and soil of southern Europe and northern Africa. The result was that the "Association Generale d'Acclimatation," at Paris, made experiments with the tree. These were eminently successful, and a wide interest was excited in its study and propagation.

The French works written about the *Eucalyptus* are numerous and enthusiastic, and among the most learned are those by Labillardière, Ramel, Gordier, Trattier, Lambert, Barsby, Moris, Raveret, Watel, Planchon, Hardy, Sinignon, Riviére, Merice, Thuret, Bonnet, Opoix, Pilot, Cuvilier, and Drs. Guimbert and Mergnes.

Similar experiments were made in England; but they were not successful, as may be seen by reading the works by Dr. Lindley and Messrs. Mueller, Johnson, and Bosisto.

Señor Albuquerque writes about the experiments made in Brazil; Marafy, Delchevalierie, and Gastiney-Bey about those made in Egypt; Signor Carlotti about those made in Italy; and Don Antonio Sanchez and Don Fernando Segura Sempere about those made in Spain. They all report astonishing success.

The experiments in Italy were made in Piedmont, Rome, Naples, and Sicily, and those in Spain in Catalonia, Valencia, and Andalusia during and after the year 1865.

The French are the most active and intelligent (if we leave our own Californians out of the question) in propagating the tree, and they have already introduced it in their African colonies, where, no doubt, they will make it the means of improving the climate and soil, and even of rendering the Desert of Sahara habitable and the sirocco less dsiagreeable and debilitating. Hardly less sanguine than the French are the Italians and the Spaniards, who hope by cultivating the *Eucalyptus* to eliminate from the atmosphere the noxious exhalations of their soil and to secure an ample supply of woodland and wood.

Señor Sempere states, in his admirable monograph on the *Eucalyptus*, that Portugal is not far behind Spain in making efforts to acclimatize the tree in various parts of her territory, and that she may be quite as successful as "Spain, in which all the climatic conditions exist that the tree needs—the very temperature, the very amount of humidity, and the very quality of ambient air."

The varieties of the *Eucalyptus* that have been classified (it belongs to the myrtaceous family) are nearly one hundred and fifty in number.

The varieties that grow best in humid soil are the *rostrata*, *tereticornis*, *colosea*, *botryoides*, *coriacea*, *stuartiana*, *amygdalina*, and *robusta*.

Those that grow well in dry soil are the *bupresti*, *doratoxilon*, *gracilis*, *fasciculosa*, *uncinata*, *dumosa*, *occidentalis*, and *brachypoda*.

The species that grow best in cold, elevated regions are the *stellulata*, *estricta*, *alpina*, *urnigera*, *vernicosa*, *amygdalina*, *coccifera*, *coriacea*, and *gunni*.

The *globulus*, which is the favorite species in Spain, is remarkable in that it thrives in humid soil, but not in humid air. It is known in Spain as the "fever tree," because it is believed to purify boggy and aqueous regions that engender fevers. Of this species, Mr. Mertens, our consular agent at Grao, writes in answer to some inquiries I made of him:

> It is the only species that has been planted in this province on a large scale, and it has given most satisfactory results. Various other species have been tried here in private gardens but, although flourishing, they are so few in number that they can not be said to furnish adequate proof as to their adaptability to this climate. The *globulus* has, however, fully acclimatized itself here, as it makes evident by producing flowers and seed. Its height here is sometimes as great as 25 to 28 meters (82 to 92.55 feet), but usually it is about 20 meters (78.74 feet) high.

Speaking of all southern Europe, the species that give the greatest satisfaction and are indisputably the most popular are the *globulus*, *rostrata*, *colossea*, *robusta*, and *viminalis*.

Señor Sempere states emphatically that the best method of propagating the *Eucalyptus* in southern Europe is to plant seed obtained directly from Australia. They cost about $1.10 per package of four hundred seeds, and those seeds are best which are darkish in color and of perfect configuration. They should be planted either during the spring or autumn. They require from ten to twenty-five days to germinate, and at the end of three weeks they begin to grow with great rapidity. They may be safely transplanted when they reach a height of 60 centimeters (23.62 inches). In 10,000 square meters two thousand have been planted at a cost of $400, yielding a profit of $2,200 in ten years.

An idea of the temperature they are called upon to resist may be gathered from the following figures, giving the mean annual temperature (Fahrenheit) in the principal places: Paris, 51.2°; Nantes, 51.2°; Bordeaux, 56°; Marseilles, 59.5°; Toulon, 62°; Milan, 55.4°; Florence, 59°; Rome, 59°; Naples, 61°; Bilbao, 58°; Barcelona, 60.4°; Valencia, 63.1°; Alicante, 64.2°; Seville, 67.2°; Coimba, 62°; Lisbon, 61°.

In addition to these statistics, I am able to give this interesting table regarding the average highest and lowest temperature in certain cities in Spain during the nine years preceding 1888, having copied it from the Reseña Geográfica y Estadistica de España:

Cities.	Centigrade.		Fahrenheit.*	
	Highest.	Lowest.	Highest.	Lowest.
	Degrees.	*Degrees.*	*Degrees.*	*Degrees.*
Bilbao	39.1	—3.9	100.38	25
Burgos	35.4	—9.6	95.72	14.7
Zaragoza	42.1	—8.5	107.78	16.7
Barcelona	33.4	—0.1	92.72	31.8
Valencia	38.6	—0.8	101.48	30.6
Murcia	41.7	—2.9	107.06	26.8
Madrid	41.5	—6.7	106.7	19.9
Seville	47.4	—0.8	117.32	30.6
Granada	34.9	—2.1	94.82	28.2
Cadiz	36.8	+3.5	98.24	38.3
Alicante	36.7	+1.3	98.06	34.3

*Reduced from Centigrade to Fahrenheit in Bureau of Statistics.

Since 1888 the lowest temperature in Barcelona was —9.6° C. (14.7° F.), and that was during the month of January, 1891. In Madrid the temperature is frequently as low as —6° or —7° C. (20.7° F.), and there, as well as at Barcelona, the *globulus* has resisted the cold without any diminution in vigor or vitality, and the other species have thrived also.

The *Eucalyptus* is valuable as timber, as a purifier of the air, as a regenerator of arid or marshy soil; for its carbons, salts, gums, manna, sap, oil, and resins; and for the medicines obtainable from its leaves and bark. Taking it all in all, therefore, it seems to be worthy of the compliment paid to it by Señor Sempere when he designated it as "el mejor de los arboles" (the best of trees).

The president of the Catalan Horticultural Society has furnished me with a book called "Novisima Guia del Hortelano, Jardinero y Arbolista," from which I have taken the following notes:

> The *globulus* is the best-known species of the *Eucalyptus* in Spain. The next best known are the *colossea;* the *rostrata*, which thrives in humid soil; the *tereticornis*, which is more robust than the *globulus* and easy to acclimatize; the *resinifera*, which endures the winds remarkably well and accommodates itself to every kind of soil; the *robusta*, which is very hardy; the *urnigera*, which is suited to the mountainous districts and to the low temperatures; the *gunni* and *coriacea*, which are indifferent to the cold; the *marginata*, which is rather sensitive; the *microtheca* and the *stuartiana*, which have all the qualities that adapt them for cultivation in Spain; the *amygdalina*, which grows best in sandy soil; the *gonocalyx*, which is suited for the middle provinces of Spain; the *fissilis*, which prospers in poor soil; the *viminalis*, which is a good gum tree; the *odorata*, which thrives in dry soil; the *longifolia*, which grows to a height of 4 or 5 meters (13.12 feet to 16.4 feet) and produces fibers from which excellent wrapping paper is made; and the *maculata* and the *calophilla*, the latter of which is a fine road tree. The latest species with which satisfactory experiments have been tried are the *clata*, which has a beautiful white flower; the *stricta*, which is ornamental; the

capitallata, which has leaves like those of the *Magnolia grandiflora;* and the *lehmanii*, the *preissiana*, and the *cordata*, all of which are robust and ornamental.

Mr. Geary, our vice-consul at Malaga, informs me that the *globulus* is the only species grown in his district. He adds:

> They retain their leaves all the year round. Those that are 12 years old measure 32 meters (104.98 feet) in height and 2 meters (6.65 feet) in circumference. After fifty years the wood becomes so hard that it can be used for any purpose.
>
> The highest temperature here during the summer is 110° F., and the lowest during the winter is 38° F.

Our minister to Greece writes to me:

> The *Eucalyptus* has been planted and flourishes in most parts of Greece. There are, however, no extensive plantations of that tree in this country. It is grown chiefly as an ornamental tree in gardens. The finest specimens which I have seen here are those in Corfu. The annual rainfall in Corfu is larger than in Attica. I have no means of ascertaining the maximum and minimum temperature for any place except Athens. In Athens the mean annual temperature, from observations covering sixteen years, has been 75.75°; the maximum temperature, 106°; the minimum, 14°.

HERBERT W. BOWEN,
Consul.

BARCELONA, *March 6, 1894.*

INDIA.

The blue gum (*Eucalyptus globulus*) was originally introduced into southern India in 1843. On the Nilgiris, at the end of 1892–'93, the area of Government blue-gum plantations alone was about 1,500 acres, and the oldest regular planting is about thirty-five years old. There are numerous Government, as well as private, plantations of blue gum on the hills of southern India, chiefly on the Nilgiri and Palmi hills, at an elevation of between 5,000 and 8,000 feet. It may be said generally that the growth of this species is an unqualified success, though it should be noted that the results are better with a rainfall under 100 inches than with a rainfall above that figure. On the Nilgiris the rate of growth of the blue gum, or *Eucalyptus globulus*, is very high, the annual increment per acre amounting to about 10 tons per annum.

The following *Eucalypti* have also been experimentally grown with fair success at about the same height as the blue gum: *E. obliqua* (stringy bark), *E. piperita*, *E. colophylla*, *E. planchoniana*, *E. rostrata* (red gum, or swamp mahogany, or river gum).

Attempts are now being made to introduce the following other species, which are likely to be more useful for timber than the blue gum, but which will doubtless require to be grown at somewhat lower elevations: *E. acumenoides* (white mahogany), *E. amygdalina*, *E. capitellola*, *E. cornuta*, *E. colognocalyx*, *E. crebra* (red iron bark), *E. diversicolor* (karri gum), *E. gomphocephala*, *E. gowiscalyx* (gray gum), *E. gunni* (swamp gum), *E. longiflora* (black box), *E. hemiploia* (yellow box), *E. macrophyorcha*, *E. maculata*, *E.*

microcoris, *E. pilluloris* (flintwood), *E. polyantherma* (lignum-vitæ), *E. vanertiana*, *E. salubris.*

In other localities of much lower elevation than the Nilgiris, experiments have also been made from time to time during the last ten years with various kinds of *Eucalypti.* At an elevation of between 300 and 2,000 feet, the following species do fairly well, though planting has not yet extended beyond a few trial trees: *E. marginata* (jarrah), *E. rostrata* (swamp mahogany), *E. resinifera* (red mahogany), *E. teriticornis*, *E. corymbosa* (blood wood), *E. robusta*, *E. citriodora*, *E. paniculata*, *E. siderofolia.*

The *Eucalyptus* does not flourish on the plains or on the outer Himalayan ranges.

The seeds of the blue gum are unusually large for the germs; they germinate freely, and the seedlings begin to shoot up at once with marvelous fertility. Great care, however, is required in transplanting them.

In the Punjab, twenty-five species of the *Eucalyptus* were tried, but only three species (*E. rostrata*, *E. citrioides*, and *E. resinifera*) have had any real success. The cause of this failure is attributed to three sources: (1) failure in the rains; (2) injury to the young stems by sunburn; and (3), the worst of all, the white ants, which attacked the tree by eating away the supporting roots. From these causes, but mainly from the last, only some three hundred *Eucalypti* have succeeded at Changa Manga out of the several hundred thousand that were planted.

It is not considered in India that the *Eucalyptus* has any effect in relieving a district of malaria, except in so far as that result may ensue from the tendency of the trees, when grown in large numbers, to absorb underground moisture. This tendency is so marked in the blue gum that small swamps, springs, and streams have been known to dry up in the close neighborhood of these trees.

The blue gum makes fairly good fuel, but is not a useful timber tree, because, except under cover, it is liable to warp, and, if exposed to wet, it speedily rots. It produces a light charcoal, of medium quality, in a proportion of about 17 to 20 per cent of green wood. The weight of the wood, when green and with the bark, is 72 pounds, and when dry is 42 pounds per cubic foot. Several species of the *Eucalyptus* exude a gum which may be used for tanning and dyeing. The bark of the *E. globulus* yields a material which has been found suitable for making paper. The leaves and young shoots yield an essential oil, used in medicine and sometimes as a substitute for cajeput oil. This oil was originally supposed to be valuable as a remedy in intermittent fevers, but experience has failed to confirm this view.

I take great pleasure in acknowledging here the courtesy of J. W. Cherry, esq., conservator of forests, Madras, in furnishing full information as to the results of experimental planting in that presidency.

V. L. POLK,
Consul-General.

CALCUTTA, *June 12, 1894.*

CUBA.

Under date of May 23, Consul-General Williams, of Habana, transmits the following report made to him by Dr. D. M. Burgess, United States sanitary inspector at that port:

> In reference to the existence of *Eucalyptus* plantations on the island and their effects with reference to malaria, I have the honor to inform you that there are no plantations proper of that nature here, and, while there are some trees, ornamental and otherwise, in gardens about private houses and on some few sugar estates, they are in no place to be found in sufficient number to furnish data of any particular importance from a hygienic point of view.

ZANZIBAR.

Acting Consul J. W. Allen, under date of March 18, reports as follows:

> All I have been able to learn about the *Eucalyptus* in Zanzibar is that some years ago a few trees were brought here and planted. Either from lack of care or because the soil was unsuitable, they did not live. There are no plantations in the island or on the coast.

AMERICAN FLOUR IN FOREIGN MARKETS.*

HONDURAS.

The standard of living among a vast majority of the people in this district (Amapala) is exceedingly simple, the country furnishing all necessaries; but American flour is extensively used by the well-to-do classes, and its consumption is steadily increasing.

The best brands of California wheat flour are those most in use.

The quantities of American flour imported in the years ending June 30, 1892 and 1893, were 1,073,623 pounds and 1,170,236 pounds, respectively.

It must be understood that large quantities were imported through the Atlantic ports of Honduras, of which no statistics are available here.

No wheat has been imported during the period mentioned. Small quantities are grown in the country.

No wheat flour from countries other than the United States is imported.

Monetary exchange facilities are very unreliable and changeable.

Shipping facilities are by the Pacific Mail Steamship Company's vessels. Cheaper freight rates might extend the business to some extent.

The people are year by year gradually consuming more wheat flour, and, owing to the proximity of California, no other country is able to take the trade away from the American millers.

ROBERT MOTZ,
Acting Consular Agent.

AMAPALA, *June 10, 1894.*

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* Received too late for insertion in the Special Consular Reports on the "Extension of Markets for American Flour."

NETHERLANDS.

STANDARD OF LIVING.

The standard of living among the wealthier classes in this consular district is high. Among the poorer classes of society it compares favorably with that of the same classes in this part of Europe, at least as regards the quantity and quality of bread consumed. Meat, pork, and fish being very high in price, bread can truly be said to form the staff of life of the laboring classes.

KINDS OF FLOUR MOST IN USE.

Only a small part of the population eat "black," or rye, bread. The farmers prefer bread made of domestic "Graham," with an addition of about one-third white flour.

The demand for the higher grades of wheat flour is limited but increasing. The pastry and fine baking Hungarian flour seems to be given the preference, and commands a slightly higher price than American flour of the same quality. "First Bakers'" is the grade most used, with a fair demand for "Second Bakers'" and "Low Grade."

Messrs. J. A. Bax & Co., flour merchants of Rotterdam, estimate the relative demand for the different grades of flour as follows:

	Sacks.
"First Bakers'"	100
"Second Bakers'" and "Low Grade"	40
"Starlight"	10
"Patent"	1

I am inclined to think that the estimated demand for "Patent" in the above table is rather low. Messrs. Peters & Son, leading bakers of Rotterdam, inform me that they use large quantities of Minneapolis "Patent," and that they are highly pleased with it.

AMERICAN FLOUR IN ROTTERDAM.

Millers here are heavy importers of American flour of the "Bakers'" grade. It is claimed that it is mixed with domestic flour and sold as the product of local mills.

There has existed among the people more or less prejudice against American flour of the lower grades. Claims have been made that it is sometimes mixed with milled wood, pease, maize, and the like. In spite of this, the low prices at which it has been sold have made it difficult, if not impossible, for the millers to compete with it. Hence the temptation to mix American flour with their own, or, rather, their own flour with the American, as the proportion is said to be two parts of the latter to one of the former, and to sell the mixture as the product of their own mills, is naturally very great. Nor does this temptation become less when it is found that this mixture exactly meets the demand, as well of bakers as of consumers. American flour gives more bread to the pound than the domestic article. But it is claimed that bread made from pure American flour does not keep well, that it drys and becomes stale very quickly. It must always be remembered that here, as elsewhere in Europe, bread is never served warm. In order to impart this keeping or staying quality to their bread, the bakers, when using American flour, invariably reinforce it by the addition of about one-third of the domestic product. Now, if the millers do this for them, it saves them the trouble, and millers and bakers are mutually benefited by it.

Whether the objection to American flour above referred to is well founded, I can not say. The better quality of bread made here is evenly baked, spongy, and palatable, and is, in my opinion, not inferior to our own bakers' bread. It must be admitted that it seems to age rather better than the American bread, but whether the credit for this is to be given to the baker, to the flour, or to the climate, I shall not undertake to decide.

DUTY AND IMPORTS.

There is no import duty on wheat or flour brought into the Netherlands, and this circumstance makes it rather difficult to obtain accurate statistics as to the quantities imported and exported. It may be safely stated, however, that this country produces less than one-fourth of the wheat it consumes.

The following table, showing the quantity of wheat imported into the Netherlands during the calendar years 1891, 1892, and 1893, has been kindly furnished me by the Department of Finance:

Countries.	1891.	1892.	1893.
	*Tons.**	*Tons.**	*Tons.**
United States	101,429	293,762	272,410
Belgium	119,494	85,704	58,850
Prussia	31,643	24,229	31,301
Roumania	73,400	121,810	134,531
Russia:			
Baltic	40,608	923	78,205
Black Sea	311,026	58,468	
British America	505	13,351	85,282
Brazil	1,944		
Denmark	6		
British India	29,994	32,374	
France	205		
Great Britain	7,071	5,468	
Hamburg	6,640	5,372	
Lübeck	1,024	150	
Mecklenburg		2,325	
Japan	1,120		
Rio de la Plata	5,542	7,931	
Spain	2		
Turkey	12,241	8,366	
Total	743,894	660,233	660,579

*Of 2,204 pounds.

Of the above totals, 561,287 tons, 520,237 tons, and 546,465 tons were entered at Rotterdam during the above-named years, respectively.

But it does not follow that this amount was consumed in this district, nor even in the Netherlands. According to official reports on agriculture in the Netherlands, only about one-half of the wheat imported remains in the country.

The following table shows the quantity of wheat flour imported into the Netherlands during the years in question:

From—	1891.	1892.	1893.
	Tons.	*Tons.*	*Tons.*
United States	37,150	66,565	76,130
Other countries	53,320	37,286	32,556
Total	90,470	103,851	108,686

Of the flour import, the following quantities were imported at Rotterdam: In 1891, 54,840 tons; in 1892, 58,695 tons; and in 1893, 69,545 tons. The share of the United States in this Rotterdam import I am only able to state for the year 1893, when 63,990 tons of 2,204 pounds of American wheat flour were received here, against 5,555 tons from all other countries.

Unlike the wheat, by far the greater part of the flour imported is consumed in the country.

EXGHANGE AND SHIPPING FACILITIES.

The facilities for monetary exchange are as good as in the other great seaports of western Europe, and the same may be said of the facilities for shipping. There are three regular lines of steamships plying between Rotterdam and New York and Baltimore, namely, the Netherlands-American Steam Navigation Company, the North American Transport line, and the Neptune line.

OBSTACLES TO TRADE.

There are two circumstances which tend to retard and impede the growth of the American flour trade in this country. One is the long time it takes to have an order filled, and the consequent risk of giving large orders in a fluctuating market. Generally six weeks, and sometimes as much as three months, elapse from the time of giving the order till the flour arrives. It would seem that such slowness and delay might be remedied to a great extent. The other hindering circumstance is the alleged unreliability of the lower brands of American flour. It is claimed that these brands, in many cases, are no guaranty of the quality of the flour. The ever-varying quality of successive crops of wheat may, perhaps, explain the evil complained of.

If there is any quality the Dutch prize above all others, it is stability; and if there is anything they dislike more than other things, it is innovation and change. Every family has its grocer, its baker, its butcher, its tailor, its hatter, its shoemaker, and they are all, from the family physician to the chimney sweep, handed down from father to son as conscientiously and as faithfully as any family heirloom. Those who have been long established in business hardly seem to expect new customers; at least, they do little or nothing to draw or win them. Nothing surprises an American so much as to find that he is almost obliged to force his patronage upon them. Under such conditions, the new man who sets up in business has a hard task before him; but if by perseverance he succeeds in establishing himself, he has a long lease on his business, and it would seem that it needs little looking after.

It would be well for those who seek to establish commercial relations here to bear these characteristics of the people in mind.

TRADE OUTLOOK.

The outlook for an increased trade in American flour in the Netherlands is, in my opinion, good. Our flour has gained a firm foothold in the country, and, if proper pains are taken to remove or minimize the hindrances above described, our flour trade in this country ought to have a long and strong lease of life.

LARS S. REQUE,
Consul.

ROTTERDAM, *May 31, 1894.*

HUNGARY.

INTRODUCTION.

Hungary, as is well known, not only produces wheat enough to cover its own needs, but has a surplus production, enabling it to export wheat largely to neighboring Austria, and to Germany and Switzerland, besides supplying its important milling industry, which exports large quantities of wheat flour to Austria, England, Germany, and France. The Hungarian mills fully supply the home market and successfully compete with American wheat flour in some of the foreign markets. This being the case, I thought the best service I could render for the extension of markets for American flour was to collect such data and statistics as might prove useful to the American miller in competing for foreign markets now partly supplied by Hungarian flour. To make these data and statistics of practical value, it was of prime importance to bring them down to as recent a date as possible, and the report was necessarily delayed until the official publication of the exports and imports of wheat and wheat flour up to January 1, 1894, which has just appeared.

STANDARD OF LIVING.

The standard of living naturally differs with the different classes of the population, and, as to these classes, it again differs in wealthier or poorer districts. In the matter of eating and drinking, there is hardly any difference between the mode of living of the wealthiest classes in this country and those of the continental countries further west. It is only when we come to the vast host of less-favored professional people, merchants, tradespeople, and employés of all kinds other than laborers inhabiting the cities and towns that we can discover any substantial difference. These, comprising about one-tenth of the population, live chiefly on coffee and wheat rolls or bread for breakfast, and soup, boiled meat, and vegetables, and a dish of boiled dough, made of wheat flour of superior or inferior quality, according to the purse of the consumer, for dinner. Supper is a scantier meal, consisting of some meat or a flour dish. Wine, diluted with plain or mineral water, or beer is the common beverage. The bread used by this class is rarely made of pure white flour; it is rather of a coarser quality. The bread most largely used is made of rye flour, occasionally mixed with barley flour.

The rest of the population, engaged chiefly in agriculture, live mostly on milk, bread, cheese, bacon, vegetables, flour dishes, potatoes, corn porridges, and, occasionally on Sundays and festival days, fresh meat. Of course, there is some, although not a very wide, difference between the food of the agricultural laborer and that of the peasant proprietor of small holdings. As a rule, the Slavs of upper Hungary and the Roumanians of Transylvania live more frugally than the Hungarians of the lowlands. Along the larger rivers, where fish are abundant, the diet of the agricultural classes naturally includes fish. Wine, in the wine-growing districts, and whisky, where no wine is made, are their chief beverages. The bread used is rarely made of wheat flour, except on festive occasions, when it is called in the vernacular "kalacs" (cake) to distinguish it from the rye bread universally used. The rye bread is coarse and dark, of better quality, occasionally mixed with wheat flour, in lower and central Hungary and almost black in upper Hungary. Corn bread is largely used by the Roumanians in Transylvania.

IMPORTS OF FLOUR AND WHEAT.

The imports of wheat and wheat flour from Servia, Roumania, and Bulgaria, with small quantities of wheat from Russia, were as follows:

Year.	Flour.		Wheat.	
	Quantity.	Value.	Quantity.	Value.
	Met. cent.	*Florins.**	*Met. cent.*	*Florins.**
1891	85,000	1,046,000	371,000	3,650,000
1892	61,936	718,457	951,000	6,703,000
1893	75,094	(†)	1,179,426	(†)
Total	222,030	....	2,501,426	....

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* The florin was succeeded in July, 1892, by the crown as the monetary unit of Austria-Hungary. The florin is estimated by the consul-general at Vienna, in a recent report, at 40.6 cents.

† Values for 1893 not obtainable.

EXPORTS OF WHEAT FLOUR AND WHEAT.

The following table shows the exports of Hungarian wheat flour and wheat during the years 1891, 1892, and 1893:

Exported to—	1891.		1892.		1893.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Wheat flour.	*Met. cent.*	*Florins.*	*Met. cent.*	*Florins.*	*Met. cent.*	*Florins.*
Austria	3,765,221	52,960,856	4,530,747	53,235,757	4,530,747	(*)
France	503,869	6,929,298	435,785	5,774,151	511,473	(*)
England	191,742	2,677,730	233,006	3,087,330	201,507	(*)
Germany	148,084	2,071,611	108,434	1,436,751	119,800	(*)
All other countries	203,294	2,828,640	(†)	2,357,903	213,323	(*)
Total	4,812,210	67,468,135	4,973,973	65,891,892	5,576,850	(*)
Wheat.						
Austria	5,341,014	54,279,535	4,344,510	37,797,400	4,518,575	(*)
Germany	457,879	4,447,870	Not given.	2,000,000	278,243	(*)
Switzerland	512,120	4,920,388	Not given.	2,000,000	135,231	(*)
All other countries	178,607	1,631,810	…………………	397,000	2,782	(*)
Total	6,489,620	65,278,603	4,849,931	42,194,400	4,934,831	(*)

* Value for 1893 not available.

† Exports in this column to the four countries named (as given) are 353,999 metric centners in excess of the total exports.

If we compare the total quantity of wheat flour imported and exported during the years 1891, 1892, and 1893, we find the total imports to be 222,030 metric centners and the total export 15,362,033 metric centners, while a comparison of the imports and exports of wheat during the same period shows the total imports to have been 2,501,426 metric centners and that of exports 16,274,382 metric centners. This comparison clearly shows that whatever importation of wheat and wheat flour there has been was mainly due to the shortness of the Hungarian wheat market in a particular quality of wheat needed by the milling industry and which had to be made up by importation from abroad.

EXCHANGE AND SHIPPING FACILITIES.

The Budapest banks offer all legitimate facilities, and several of them are directly connected with banks in the United States.

Fiume is the only seaport in Hungary. The Adria Steamship Company, located in Fiume, does considerable of the carrying traffic between the United States and that port.

MILLING INDUSTRY OF HUNGARY.

The perfection of all the mechanical contrivances employed by the milling industry in Hungary and its extraordinary development are well known in the United States, and hardly require any elaboration here. But what may be less known is the extraordinary care and solicitude with which the wheat-growers, as well as the mills, coöperate to produce the finest quality of flour by assorting, classifying, and thoroughly cleansing the different qualities of wheat grown. They used to produce as many as eighteen grades, but now these are reduced to about seven. The uniformity and reliability of these grades have contributed more than anything else to the success of Hungarian flour. It is claimed, besides, that the Hungarian flour is possessed of a peculiar buoyancy which makes it better adapted for bakers than any other flour, and this quality is attributed to a nice mixture of different brands of wheat, which is kept secret by the mills.

While there are about fourteen large, first-class flouring mills at Budapest, there are about one hundred and twenty more scattered over the country, for the most part near the centers of wheat-growing districts. This proximity has the advantage of educating the farmer as to the needs of the miller, and, at the same time, it secures the grower a ready market and cash for his produce.

No doubt American flour is destined to crowd out Hungarian flour in the more accessible western markets. It has achieved a signal victory in England, where, within the years 1891, 1892, and 1893, it has reduced the Hungarian importation from 15 per cent of the total supply in 1891 to 8.5 per cent at the close of 1893.

EDWARD P. T. HAMMOMD,
Consul.

BUDAPEST, *June, 1894.*

ASIATIC TURKEY.

STANDARD OF LIVING.

The standard of living in this district is higher for all classes than in any other part of Asia, or even Europe—England, perhaps, excepted. Mutton, poultry, eggs, fish, wheat bread, lentils, pease, rice, vegetables, and fruit, with milk and clarified butter, form the staple diet; and enormous quantities of these are consumed. All kinds of foods must literally float in fat. In this respect the people resemble the Esquimaux, notwithstanding the climates are so opposite, the temperature here keeping for five months at an uncomfortable height, often rising day after day to 115°, and as high as 128°, in the shade.

QUALITY OF FLOUR USED.

The wheat flour used here is very coarse. It is ground by hand or horse power from native wheat, which is preferred to any other. Thick, flat cakes are made without yeast and baked on hot ashes in a circular mud oven. The bread is, to my mind, tasteless and not at all appetizing; but in that opinion I seem to stand alone.

No American or other foreign flour is used here.

EXCHANGE AND SHIPPING FACILITIES.

Facilities for monetary exchange are good, but rates are high. Besides the Ottoman Bank, there are a number of private banks. The Persian Bank closed a year ago.

Goods can be shipped from the United States to London, thence direct to Bassorah via the Suez Canal and further up the Tigris by river steamers.

OBSTACLES TO TRADE.

The chief obstacle in the way of introducing American flour is an abundance of native flour, which is not only cheap, but preferred by the people. There is no prospect of introducing American flour here.

Crops having this year been destroyed by flood, a famine is threatened, though considerable quantities of wheat from last year's harvest remain unsold. The month of May is harvest time here. Wheat is sown in November.

JOHN C. SUNDBERG,
Consul.

BAGDAD, *June 14, 1894.*

TRADE AND INDUSTRIES OF NORFOLK ISLAND.

WHALE FISHERIES.

During the period under notice (the last six months of 1893), the island has not been visited by any whalers, either home or foreign, none being out in these seas, from which it would appear as if the New England shipowners had abandoned the southern whale fishery altogether. Formerly the prosperity of the island depended a good deal on the periodical visits of our whalers, as most of the home articles, such as clothing, prints, calicoes, etc., were derived from a mutually advantageous barter trade carried on with these vessels, and the islanders now feel this altered state of things acutely. Situated as the island is, in the middle of the whaling grounds, it was no unusual occurrence, in years gone by, to see at one time four or five whalers lying "off and on," either getting fresh provisions or giving their men a run ashore. Now, however, we seldom see one, and probably will not until whaling matters mend. It seems a pity, too, as from paragraphs one occasionally sees in the Australian and New Zealand papers of vessels meeting with the cachalot, the sperm whale must be increasing fast, and, notwithstanding the present low price of oil, the business, economically managed, ought to be made to pay, calculating, of course, on a large take in a short time. With the islanders themselves, whaling is the principal and most congenial industry, as they like the water and are expert boatmen. Generally, year by year, about eight boats are engaged in the business. The season, which begins early in July, lasts until the end of October. During these months the whales, which are of the "humpback" kind, are to be seen on most fine days disporting themselves, either solitary or in schools, all about the island. Luck, however, is not always on the side of the toilers, and although the last season was a very successful one, the previous two or three years were the reverse and disheartening. The season just concluded resulted in a take of eighteen whales, yielding between 70 and 80 tons of oil. The ruling price, however, is not satisfactory, and allows little, if any, margin of profit for the amount of labor expended. Some of the oil has already been sold at prices ranging from $73 per ton for trade and cash to $83 and $87.50 for trade only, the buyers finding casks and sellers shipping free on board. The remaining oil, some 30 or 40 tons, is being held by the whalers for a slight advance—they want $87.50, trade and cash. The head bone of the whale, which is short in length and inferior, was sold at $195 per ton cash on the spot. It takes about eight or ten whales to produce a ton, and the article is used, it is said, in the manufacture of imitation horsehair goods.

SHEEP AND WOOL.

The yield of wool is gradually dwindling, and the island flock is decreasing year by year. The last shearing showed a decrease of 127 in the number of sheep shorn, the figures being: In 1893, 1,004; 1892, 1,131; wool in 1893, 3,159 pounds; 1892, 4,208 pounds. The clip was sold on the spot for 12 cents per pound, free on board. The manager, in his report to the owners, informed them that, from the depredations of dogs and other causes, the state of the flock was not at all satisfactory, and that he could not see any way to better it.

FARMING.

With farming matters, like whaling, the past year has been an exceptionally good one. During that period, 77 inches of rain fell, spread rather evenly through the months, enabling farmers to plant and garner almost the entire year through; but at present, there is no outlet or sale for the surplus field products. Potatoes and onions, which mature here earlier than in Australia or New Zealand, would, no doubt, realize a paying price if the produce could only be got to market at the right time; but, somehow, growers hardly ever get that chance.

The mail schooner *Mary Ogilvie*, of Sydney, New South Wales, subsidized by the British Imperial Government to carry the mails quarterly between this island and Sydney, drifted ashore on the morning of the 23d of June last, a little to the northeast of the Cascade landing place, and became a total wreck. The vessel had been at anchor at the Cascade; the weather looked threatening, the breeze was light, the anchor was lifted, and a futile attempt made to get out of the bay. No lives were lost, and all the gear and stores were saved. The service has been continued by the contractor with another vessel of almost equal size, the *Oscar Robinson*, of 52 tons, which is still running; but it is stated that the contract to carry the mails, which was for five years only, will soon run out, and, as the British Government made no promise to continue the service, one can hardly say what the future mail arrangements will be.

THE MELANESIAN MISSION.

The Melanesian Mission has its headquarters here, the community, which is separate and distinct from the other, numbering, with its white staff, close upon two hundred souls. This great mission is the only representative of the Anglican church in the western Pacific, where it wields a powerful influence for good among the natives, having 107 permanent stations scattered over the New Hebrides, Banks, Santa Cruz, and Solomon groups of islands. The system of working is said to be very simple and effective. Natives are brought from the different islands to the central station here, and such as are suitable are educated for teachers, the men, almost without exception, making capable and willing laborers. The work is carried on by a handsome auxiliary barkentine—the *Southern Cross*—which ordinarily, between April and November, makes three trips to the several islands, retiring to Auckland after the end of November to lay up during the hurricane months. Since the retirement of Bishop Selwyn, mission matters have become rather quiet. The late bishop was wealthy and influential and popular with the natives, and when the good of the mission was concerned used his money lavishly, and, as might be supposed, his loss is now felt acutely. No successor to the bishop has been appointed, but the present acting head is the Rev. John Palmer, B. D., who states that operations are much impeded by lack of funds and an insufficient white staff.

TRADE.

The trade of the island is in the hands of three or four storekeepers, whose financial prospects do not appear to be particularly bright. There is very little money in circulation, and business is confined principally to barter, which, it is averred, nearly always leaves a heavy loss. The imports amount to about $18,000 (including $3,000 for the Melanesian Mission), consisting of cotton goods, clothing, flour, and groceries. The exports amount to about $10,500, which includes whale oil, wool, hides, onions, arrowroot, and sweet and Irish potatoes. Bananas and oranges are also grown in quantity, and could be bought at reasonable rates.

POPULATION, ETC.

The moral tone of the island remains good. No serious crime is ever committed. There was some talk of making a lockup last year; indeed, permission was voted the magistrate to construct one, but more, one would imagine, as a threat to recalcitrant young men who refuse to be amenable to the magistrate's orders, or perhaps who will not work out their fines, than as a work of necessity.

The population of the island on December 31, for the two communities, was: Norfolk, 575; Melanesian Mission, 196; total, 771. In the Norfolk community there are 91 married couples, 10 widowers, and 13 widows. Of these, there are above the age of 21, 52 males and 44 females; above 14, 43 males and 34 females; under 14, 116 males and 146 females; strangers, 2 males and 1 female; total, 643; absent from the island, 42 males and 26 females. In the Melanesian Mission, the white staff consists of 11 males and 8 females; of natives there are 133 males and 44 females, a total of 196 persons. There were 20 births, 6 deaths, and 5 marriages during the year.

The post-office returns for 1893 show: Letters received, 2,656; dispatched, 2,905; registered letters received, 18; dispatched, 37; newspapers received, 6,027; dispatched, 7; books and parcels received, 236; dispatched, 125.

The meteorological returns showed the highest thermometer on February 15 (82°) and the lowest on August 7 (55°)—an average temperature of 68°. Rain fell on 166 days, gauging 77.26 inches.

ISAAC ROBINSON,
Consular Agent.

NORFOLK ISLAND, *January 20, 1894.*

COMMERCIAL IMPORTANCE OF SYDNEY.

As a natural harbor, Port Jackson is one of the finest on the globe. The entrance is from the east, and, after passing Sydney Heads, a turn toward the southwest is made, passing Middle Head, about two-thirds of a mile, into Port Jackson proper, which is a perfectly landlocked harbor. After a 2-mile stretch on another course, bearing due west, the city wharves are reached, where the water is always as smooth as a mountain lake. The form of the harbor is broken and peculiar. There are bights and bays and coves and nooks almost innumerable, and it is as picturesque as it is valuable as a harbor. So irregular are the shore lines that there are over 1,200 miles of water front within a radius of 10 miles from the general post-office, while in no part of this interesting body of water can one get a mile from land, and the depth is so uniform that at almost any point the largest vessels can lie alongside of the shore.

There are miles and miles of wharves, all in the very heart of the city and most convenient for passenger or shipping purposes. So numerous and uniformly deep are the finger-like bights, bays, coves, and elongated arms of Port Jackson that the navies and commercial marine of the world might safely lie alongshore within the limits of Sydney and its suburbs.

The berths for ships everywhere are very convenient; the wharves are good, but in some places of general discharge the warehouses are poor and their management rather faulty. While I have heard of no cases of loss or of damage, yet there is a slovenly appearance at some of those places, indicating insecurity to goods.

As a commercial point, few people in our country appreciate the city of Sydney. It has a population of 411,000. It is beautifully built of solid masonry, and it has better paved streets than any American city except Washington. As a port, it stands sixth in the British Empire in the value of its trade, to wit: London, Liverpool, Hull, Calcutta, Bombay, and Sydney. It is also the metropolis of Australasia, being the terminus of all the ship lines of the continent, and leading Melbourne, Adelaide, Auckland, and other cities of Australasia in the value of trade.

In actual recorded tonnage as entering and clearing the Australasian ports, Melbourne leads Sydney, as in 1891 she had 4,362,138 tons and Sydney 3,291,188 tons; but, Sydney being the terminus of all ship lines coming to the continent, many vessels are counted as twice entering and twice clearing at Melbourne, as they call there coming from and returning to Europe.

The value of the trade of the six leading British ports stands as follows:

Ports.	Value.	
London	£236,594,234	$1,151,267,543
Liverpool	223,261,483	1,086,122,376
Hull	47,331,467	230,314,918
Sydney	35,377,745	173,110,307
Melbourne	31,508,051	153,318,176
Glasgow	27,015,520	131,447,520

The per capita trade of New South Wales with the outside world is $240, and the net per capita wealth is about $1,620—a greater per capita trade and wealth than is enjoyed by any other people. Victoria has a per capita trade of $182 and a per capita wealth of $1,520.

While the people of New South Wales are a great trading people, and while there are the most friendly relations between the people of this country and the people of the United States, with our country nearer than any of our competitors, we get less than 3 per cent of the trade of the colony.

As before remarked, every steamship line visiting the continent of Australasia makes Sydney a terminal point. The following is a list of the regular steamship lines: Peninsular and Oriental Steamship Company, Orient Steamship Company, Norddeutscher Lloyd's Steamship Company, Messageries Steamship Company, Thompson's White Star line, Oceanic Steamship Company, Canadian Pacific Steamship Company, China Navigation Company, Eastern and Australian Steamship Company, Gibb Steamship Company, Mogul Steamship Company, Lund's line of steamships, Anglo-Australian Steamship Company, Gulf Steamship Company, Tyser line of steamships, and the German Australian Steamship Company.

The total trade between New South Wales and the United States for eleven years from 1883 to 1893, inclusive, is as follows:

Years.	Amount.	Years.	Amount.
1883	£1,798,157	1889	£2,225,288
1884	1,321,876	1890	2,159,477
1885	1,994,103	1891	3,590,703
1886	1,539,189	1892	2,353,502
1887	1,627,863	1893	1,152,897
1888	2,011,672		

That our trade with a great, progressive, and growing country should be over $3,000,000 less last year (1893) than in 1883—less than one-half what it was in 1892 and less than one-third as much as in 1891—is sufficient to arouse the spirit of inquiry as to the cause for this condition of affairs.

It will not do to attribute the whole of the decline to the prevailing hard times, as the trade of Australia has almost uniformly increased, especially that of New South Wales, and the trade of other foreign countries with New South Wales has also increased, especially that of France and Germany.

The total trade between France and New South Wales in 1883 was £236,508, while in 1893 it had increased to the sum of £1,118,508, and the trade between New South Wales and Germany increased from £221,656 in 1883 to £1,353,131 in 1893. However, a careful inquiry into the case does not leave the United States in so unfavorable a position as the facts presented by the statistics indicate. For instance, in 1883 New South Wales sold to France but £24,786 worth and bought of France £211,722 worth. The "trade" was chiefly a purchase of this country from France. In 1893 the conditions were reversed, as the imports from France were but £49,436, while the exports thereto were £1,054,636. The "trade," therefore, of France with the colony now is chiefly as a buyer.

The same is largely true of the trade with Germany. In 1883 the colony imported from Germany £213,709 worth and exported to Germany but £7,947 worth, while in 1893 the colony imported from that country £373,233 worth and exported to it £979,898 worth, or an excess of exports over imports of £606,665.

The trade with the United States has been more reciprocal, as in 1893 the imports therefrom were £922,574 and the exports thereto £872,983, while in 1893 the imports amounted to £526,331 and the exports to £626,566.

New South Wales bought from the leading countries as follows in 1883:

Germany	£373,331
China	164,481
Belgium	129,114
France	49,436
United States	526,331

Thus, with the exception of the United Kingdom, the United States have a better market in New South Wales than any other country.

The magnitude and importance of the trade of New South Wales—conducted chiefly through Sydney, though there was formerly considerable trade at Newcastle, the only other port of entry in New South Wales—may be judged from the fact that, in 1893, there were 5,830 entries and departures of vessels, of which 1,172 were sailing and 4,658 steam vessels, with a total tonnage of 5,193,328 tons and of a value approximating £35,000,000 (over $170,000,000). This is a greater tonnage and value than are possessed by any other people, considering population.

Of this enormous tonnage, there were but eight entries of United States steamers, the two small ones plying between Sydney and San Francisco, and but twenty-one United States sailing ships, chiefly laden with lumber from the Pacific coast and discharged at Sydney.

The chief exports of New South Wales—about all of which, except coal from Newcastle, are shipped from Sydney—were:

Articles.	Value.	
Wool	£10,449,911	$50,529,267
Tin	330,335	1,607,522
Timber	43,105	219,481
Sugar	191,695	932,788
Skins and hides	700,000	3,406,200
Ore	988,991	4,812,430
Lead	2,019,997	9,869,305
Silver	95,000	462,270
Meats	171,871	836,324
Belting	88,971	432,933
Live stock	600,000	2,919,600
Leather	206,041	1,002,596
Kerosene shale	79,919	388,892

With the exception of £139,219 worth of drapery, £56,849 worth of iron and steel, and considerable trade in wines, New South Wales does not export any great quantity of manufactured wares.

The chief products of which New South Wales has a surplus are the things of which there is a deficiency in the United States, while an inquiry into the nature of her imports shows that of the things in which she is deficient the United States have an enormous surplus.

Our people are likely to underestimate the importance of the commerce of Sydney, owing to the smallness of the population of the colony; but when it is remembered that the 1,200,000 people of New South Wales have a per capita export and import trade nine times as large as that of the people of the United States, and much larger than any other people, it impresses itself differently upon the mind.

As I am on the ground, it may not be amiss to venture an opinion as to the cause for the marked decline of our trade with this country, while that of other nations has enormously increased. Our merchants and manufacturers have too often been careless about keeping the quality of goods up to samples, and representatives are too indifferent about the agencies through which they reach their customers. This is competitive ground, and in the port of Sydney every nation on the globe casts its wares, and a shrewd and critical people buy on the merits of the goods. The people have a strong liking for the United States—for American enterprise and American goods—and every business or firm that has able and pushing representatives here is gathering a fair share of profits.

In the next place, there are but two small American steamers—built for the Honolulu and San Francisco trade—with 1,900 tons net register, plying between Sydney (or all Australia) and the United States, while there are ten lines of monster steamers running from Sydney to various ports of Europe. Some of these ships register 6,500 tons. Besides the ten lines referred to (one going via the Cape of Good Hope and the others passing through the Suez Canal), there are hundreds of tramp steamers and sailing vessels seeking cargoes in this El Dorado of commerce. Then there are five lines of steamers plying between Sydney and various ports of China and Japan.

The French line is heavily subsidized, and of the German lines one receives a subsidy of 1,600,000 marks ($380,800) per annum and the other has valuable mail contracts. The English lines, I suppose, have "persuasive" influences aside from the enormous trade between the colonies and the mother country. The French and German trade with this country has leaped forward with wonderful strides. The passenger traffic, too, increases with trade. It is not uncommon for 400 or 500 passengers to be seen on these European vessels, while from ten to thirty is a fair average for the United States steamers, going once a month.

The United States are closer to this great commercial country than any of the competing countries; the ocean voyage is immeasurably safer, both for many kinds of freight and for passengers, and Australia has more of the things we need and needs more that we have to spare than any like number of people anywhere else, and yet we have less than 3 per cent of her trade.

GEO. W. BELL,
Consul.

SYDNEY, *May 18, 1894.*

BENEVOLENT INSTITUTIONS OF TURIN.

Turin is almost entirely free from the street beggar and professional cripple. The reason for this is found in the existence of numerous hospitals, homes for the aged and incurables, asylums for the blind, destitute, and homeless, and institutes where rickety, crippled, and otherwise afflicted children receive proper nursing and schooling.

For the maintenance of such benevolent institutions, the State or city government gives but an infinitesimal share; private charity, unostentatiously and systematically applied, takes care of them. The total amount thus spent at Turin is about 2,000,000 lire (about $386,000) per annum.

I shall refrain from pointing out in detail the advantages of the several hospitals here from a medical standpoint; that I leave to the medical profession. I desire, however, to mention a striking feature in the construction of all hospitals built during the last ten years, *i. e.*, the total avoidance of angular corners inside of them, walls and ceilings being arched everywhere.

The best-known hospitals are the Ospedale Mauriziano Umberto I, principally supported by the Knights of St. Maurice and Lazarus, also by those of Malta; the San Giovanni, for both sexes; Amedeo di Savoia; Maria Vittoria, for women and babies only; Aftalmico ed infantile, Valdese, and the

Cottolengo; besides many smaller ones where deaf mutes, the blind, and crippled find nursing, homes, and occupations.

I shall limit myself to a brief report on the industrial and educational departments in connection with two of the hospitals, which are altogether unique.

(1) The Cottolengo is built three stories high, in the form of a St. Andrew's cross; it has five thousand beds, over four thousand being constantly occupied. The connecting wing, forming the street front, contains the office, operating, waiting, and other rooms. Numerous pavilions, cottages, schoolhouses, and workshops occupy the grounds, separated by small but well-kept gardens and yards, giving plenty of air and light and adding cheerfulness to the conglomerate of stone structures. The whole being scrupulously clean, a pleasing home-like effect is secured.

Sixty years ago a poor monk, named Cottolengo, founded this institute on money solicited by begging. Its support is still obtained in this manner and by private, mostly anonymous, contributions from one day to another, the daily expenditure being from 3,000 to 3,500 lire. No sick asking for medical treatment, nor any healthy person needing shelter, have ever been refused admittance. If the latter is in extreme poverty and wants work and can not get it outside, it is given him here. Homeless boys and girls receive free schooling. They learn how to read and write, knitting, sewing, embroidering, or a trade. So do men and women, the trades of carpenter, shoemaker, tailor, printer, bookbinder, baker, and gardener being practically taught. The more skillful laborers are placed in the repairing department. There is constant work for the hospital; also work to fill orders coming from outside. Deaf mutes, the blind, incurables, idiots, fallen women, and picked-up children are taken in and cared for. Anyone needing a roof over his head, so long as he is poor or destitute and not a criminal, finds a welcome home here, provided he is willing to work in exchange for shelter and a good meal.

The Cottolengo is a city in itself, managed by a board of business men and physicians, ministered to by a priest, and attended by a sisterhood. The question, however, whether the applicant be a Catholic or not has never yet been raised. How a gigantic establishment like this can be run without a fixed income seems to be a mystery. Still it is done, and it has worked well without a hitch for over half a century, growing steadily in the meanwhile in dimensions and in popularity.

(2) The Istituto pei Rachitici, for the benefit of scrofulous, crippled, and deformed children, by nature or by accident, with accommodation for eighty to a hundred, was organized about seven years ago by Prof. Baron Gamba, a leading physician and authority on diseases of children and a great philanthropist.

The school in connection with the infimary is not a "public" one in the American sense. It is supported by private contributions, the municipality of Turin giving 4,000 lire per annum toward its maintenance. It is open eleven months during the year. In September the establishment is closed, receiving a thorough overhauling and disinfecting. This interval gives the physicians and attendants a much-needed rest.

The nurses and teachers, male and female, do not belong to a religious order, the institute being nonsectarian.

The conditions for admission are poverty of the child's parents, vaccination at least a couple of months before the little one can join the school, and the fact that the applicant is not afflicted with a disease, save being crippled.

Every morning two large stages, holding about 40 children each, bring them, under the supervision of a teacher, from the tenement districts to the school, taking them home again in the evenings.

A child must be 3 years old to gain admission, and is allowed to enjoy the benefits of the infirmary, school, and gymnasium until its seventh year is completed. If it is the opinion of Prof. Gamba and his staff that the crippled child's defects and sufferings can be lessened or cured by an operation, it is performed, with the consent of the parents or guardian.

The school is divided into three classes, according to the age of the pupils. The system is that of Froebel; half the time, however, is devoted to gymnastic exercises. In the primary department, only play, singing, and deportment are subjects of instruction; the teacher is a woman. In the second class, the alphabet is taught, and the so-called German "Anschauungs" method; the gymnastic exercises are conducted by a man. In the most advanced class, the rudiments are taught in a mild, playful, though effective, manner, and several "kindergarten" ideas of the higher order have been introduced. Three hours in the morning and three in the afternoon are pleasantly passed in this way. At noon the children partake, in the large, cheerful-looking dining hall, of a big plate of good beef soup, with fresh vegetables, bread, and wine. Until 2 o'clock, they play on the beautiful grounds or, when the weather is inclement, in another large hall well heated in winter. After recess they return to the more systematic occupation.

It is remarkable what a healthy, rosy complexion most of the little ones have; how jolly and contented they look, even those walking on crutches.

At the gymnasium the main object is to develop the chest and the spine. Apparatus is in daily use which is entirely unknown in the leading athletic clubs in the United States. These appliances were mostly invented by Baron Gamba.

All the rooms are scrupulously neat, clean, and well ventilated. Bathing accommodations are abundant and fitted up with the latest improvements; for summer, a tub for hot salt-water bathing, with cold showers, is in the airy basement.

For the convalescents at the infirmary, which is a separate building connected with the schoolhouse by a glass-covered passageway, a special room is set apart filled with toys and games of every description. The gymnasium for the convalescents is under a physician's care.

The whole is a clean, cheerful, admirably managed place; in fact, a model institution.

It is worthy of note that with over 70 scholars and about 20 children at the infirmary, with a staff of excellent physicians, faithful teachers, and devoted attendants, the institute is maintained at an expense of a little more than $10,000 per annum.

At Milan and at Bologna like institutes have been established after the model here.

W. E. MANTIUS,
Commercial Agent.

TURIN, *May 1, 1894.*

SUGAR PRODUCTION IN EGYPT.

Sugar culture in Egypt, like the cotton crop, has had its beginning and successful development within the present century. With a soil and climate unsurpassed in their adaptation to its profitable production, success has not been achieved without many drawbacks. With the exception of the culture of the cane—a simple agricultural matter easily carried out with native labor—the work has, of necessity, been largely under the guidance and control of foreign experts, obtained at high salaries, whose methods have been ill judged and wasteful. Having passed the ordeal of initiatory processes and experiments, sugar-growing has now become one of the normal, profitable industries of Egypt, with an outlook for still further development.

The first practical step by the Government toward inaugurating the industry was in the year 1818, with the erection of a sugar manufactory at Reyremoun, in the province of Minieh, which district to-day is the center of the business. The plans and scheme upon which the factory was constructed were those in vogue in the Antilles at the time. It was first managed by an English expert and later by a Corsican. As experience was gained the industry grew to larger proportions, until Egyptian sugar was favorably known in the home markets.

In 1826 there came a setback in the way of foreign competition. European refined sugars, considered better in quality and lower in price, came upon the Egyptian market and for the moment stifled the home trade. Nevertheless, domestic sugar was restored to favor, and in 1833 the factory at Reyremoun produced 28,589 cwts., and Egyptian sugar controlled the market in every town of Lower Egypt from Cairo to the Mediterranean.

Thus was established the sugar industry of the Nile country, and as years passed other factories were added. There appears, however, to have been no general movement in the direction of extensive production either in the reign of Mehemet Ali or his successors, Ibrahim, Abbas, and Said. At the time of the succession of Ismail as viceroy, in 1863, it is stated there were only four sugar factories in the country, erected in Mehemet Ali's time. But upon the advent of Ismail Pasha, with his far-reaching ambition, there came a grand movement in cane culture and sugar manufacture. Intoxicated, as it were, by the success attending cotton production during the years of the civil war in the United States, when Egyptian cotton commanded almost fabulous prices, the Khedive caused to be built within ten or twelve years no less than fifteen sugar factories at a cost estimated at nearly £6,000,000 ($29,196,000).

Some were badly located, and nearly all were poorly constructed. It is stated that the English and French engineers and providers of machinery were more eager to complete their contracts and receive their money than to render intelligent service to the Khedive and his country. Ismail's wholesale venture naturally fared badly, primarily because he had effected no equivalent extension of the cultivation of cane, and the factories dotting the Nile in Upper Egypt were permitted to go to ruin because there was no cane, or very little, for them to crush. As in times of great mining excitement in America, when millions have often been spent in machinery and apparatus for metallurgical processes before the fact of the existence of profitable veins had been established, so, in this instance, the factories were in the field ahead of the cane. Of the original nineteen factories, six have been sold for old iron and four used to enlarge the remaining nine.

Practical impetus was given to the industry in 1875, when there were grown on the Khedive's Daria Sanieh estates 9,200 feddans* of cane, on other properties of the Khedivial family about 500 feddans, and on private estates 5,300 feddans. Much of the cane from the last-mentioned estates, however, was used for "assal," or molasses. To this should be added 9,000 feddans of cane consumed by the peasantry as food in a fresh state. These figures, from an authentic source, indicate that the product of only about 15,000 feddans was made into sugar. The progress setting in in 1875 has been steadily maintained until the present time, not only in area under cultivation, but in the percentage of sugar obtained from the cane. The acreage on the Daria Sanieh estates in 1893 was 36,000 feddans, nearly quadrupled since 1875, while on other Khedivial estates the cultivation had ceased. On private estates it had increased to 12,000 feddans, and the area devoted to food for the peasantry, and not included in the above figures, was 12,000 feddans. Thus the area devoted to the manufacture of sugar is now 49,000 feddans, against 15,000 feddans in 1875. The cane from these 49,000 feddans is dealt with by nine Daria factories and three private establishments, while in 1875, as stated, there were nineteen factories of the most expensive type. No better tribute to the new order of things in Egypt than this comparison could be found.

Advancement is further demonstrated by an analysis of the statistics for the years 1875 and 1893. In the former year a feddan yielded 1.44 tons of marketable raw sugar, against 1.94 tons in 1893. This increase, resulting mainly from improved methods of extraction, is no less than 35 per cent. Could the price of sugar in 1875 have been maintained, the dream of Ismail for his country might have been realized. In that year sugar sold at $112.50 per ton; in 1893 the price was $62.50, a decline of 44 per cent. Thus was the net increase of half a ton of sugar per acre more than offset by the fall in value, for the product of a feddan in 1875 realized $162, against $121.25 in 1893.

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*1 feddan = 1.03 acres.

It is impossible to state the net profit of the crop to the grower, as the expenses cover a wide range of fluctuation and are governed largely by location of factory, etc.; but it is estimated to run from $7.50 to $22.50 per feddan.

It will interest American planters and economists to learn some of the salient features of the Egyptian sugar industry since attaining the period of prosperity—say for the past five years. The statements of the appended table show the field area drawn from, aggregate of cane crushed, and the average yield of cane per feddan, and to prove how the crop is regulated by the state of the Nile, from which the lands are irrigated, the mean-water gauge for each summer is given. The records of the Daria Sanieh factories furnish this data.

Year.	Cane.	Quantity obtained.	Average per feddan.	Mean Nile.
	Feddans.	*Cwts.*	*Tons.*	*Meters.*
1889	29,830	9,726,292	16.3	4
1890	25,527	9,136,923	17.7	4.25
1891	31,512	12,865,760	20.4	4.4
1892	34,698	14,517,587	20.9	4.8
1893	36,000	13,065,820	18.15	4.4

The following table, compiled from Daria Sanieh statistics, shows the proportions of cost between cane, transportation, and manufacture in producing a ton of raw sugar:

Description.	1888.		1889.		1890.		1891.		1892.	
	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.	Cane.	Sugar.
Cost of cane	$3.71	$39.35	$3.72	$38.99	$3.41	$36.41	$3.41	$32.79	$3.41	$31.93
Cost of manufacture	.89	9.57	.92	9.71	.99	10.55	.97	9.41	.90	8.43
Transport	.56	6.02	.49	5.26	.53	5.83	.59	5.82	.59	5.62
Total	5.16	54.92	5.14	53.96	4.93	52.79	4.97	48.02	4.90	45.98

A private planter of Upper Egypt, however, analyzes the profit of the business in rather different figures from those obtainable from the Daria Sanieh. He quotes rent of land at $23.66 per acre and land tax $6; 70 cwts. of seed cane at 14⅘ cents per cwt., $10.36; labor and irrigation, $8.40; expenses of harvesting and transportation, $5.93—a total expenditure per acre of $54.35. Further, he claims a yield of 25 tons of cane, realizing $75 per acre and affording a net profit of $20, a result probable only in exceptional cases. The Daria estates average 18¾ tons per acre, which, at

$3, produce $56.25, an amount slightly in excess of the individual planter's cost of production.

The percentages of the different grades of sugar and molasses obtained at the Daria factories for a period of seven years show a gratifying improvement:

Grade.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
First	6.51	6.48	7.17	7.34	7.41	8.24	8.66
Second	1.77	1.73	1.78	1.71	1.55	1.65	1.59
Third	0.55	0.42	0.46	0.5	0.42	0.51	0.44
Total sugars	8.83	8.63	9.41	9.55	9.38	10.4	10.69
Molasses	2.31	1.92	2.25	2.16	2.44	2.25	2.30
Grand total	11.14	10.55	11.66	11.71	11.82	12.65	13

The following table gives, in tons, the output of each grade and the total of all grades from the Daria factories for the seven years:

Grade.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
First	37,542	35,894	38,101	31,295	29,684	46,499	55,128
Second	10,167	9,588	9,443	7,287	6,213	9,337	10,160
Third	3,143	2,344	2,255	2,110	1,695	2,892	2,776
Total	50,852	47,826	49,799	40,692	37,592	58,728	68,064

The increase of first-grade sugar is made specially prominent by the above tables, and represents the improving skill of those having the factories in charge and better machinery. The market price of this grade has fluctuated considerably, going from $2.75 per cwt. in 1887 to $3.55 per cwt. in 1889. For the years 1891, 1892, and 1893, it has averaged $3 per cwt., while for second and third grades the price has remained fairly stationary at about $1.80.

CANE CULTURE.

Planting takes place in March, after the land has been plowed three times. On the important governmental estates modern steam machinery is used, but the small native farmer still uses the wooden plow, known in the Orient from time immemorial. The seed cane, cut in lengths of about 35 inches, is set out in furrows 4 feet apart and 8 inches deep, with little or no space between the pieces. The furrows usually bear north and south, that the young plants may escape damage from prevailing winds.

Planting completed, the soil is periodically watered from the Nile (fortnightly) until the crop is matured—about the end of December—when it is ready for harvesting. The cane is conveyed to the mill for crushing as soon as possible after cutting, to prevent fermentation. The yield per acre depends, of course, largely upon adaptability of soil, water supply, and care in the several processes of cultivation. The Daria Sanieh estates employ in cane-growing about 6,000 men with their families, and a daily wage of from 10 to 20 cents per person is paid.

There have been many experiments with artifical manures, but, while fertilizers have been found that increase the product, their cost has prevented their adoption. Superphosphate of guano gave excellent results, and cane compost very little benefit. Soil from the ruins of ancient towns and villages—costing nothing but the labor of gathering—is employed wherever possible and with fair profit. Pigeon manure is used with benefit on some estates in Upper Egypt, where enormous flocks of pigeons are kept for the purpose. As on cotton lands, almost the only fertilizer used on Egypt's sugar plantations is the Nile water, carrying a muddy deposit of magical richness. Occasionally a cane field is permitted to lie fallow for a season, when its vitality is recuperated and the crops of the succeeding years are sufficiently improved to repay the owner for his intelligent sacrifice.

CANE-CRUSHING.

Crushing begins about January 1 and continues for a hundred days or more. It furnishes employment at the Daria factories to fully 8,500 natives at wages of from 14 to 20 cents a day. Each establishment has twelve or fifteen natives at monthly wages ranging from $9.75 to $75. The directors of the factories are Europeans, as are their engineers and immediate assistants.

The cane is brought from the fields by trains of from twenty to thirty cars running on agricultural railways. There are more than 300 miles of these lines, without which crushing could not be accomplished in many months. It is calculated to cost 14 cents a ton to haul the cane to the mills.

Seven years ago the Daria factories adopted the "double-pressure" system, which largely explains the improvement in product shown by the statistics of this report. After the cane has been crushed in the first mill, the mash is watered and conveyed to another, which completes the extraction process. The "megass," or cane fiber, is drawn away to the drying field by small locomotives, and furnishes three parts of the fuel for running the factories—an important item in a country having little wood and no coal, save that brought from abroad at a cost of about $9.75 a ton. The double-crushing system naturally entails a greater cost for labor and fuel, but it is profitable.

REFINING.

There is in Egypt but one refinery, owned by an influential company and situated on the Nile about 50 miles south of Cairo. It has a capacity of 15,000 tons per annum, but its output never exceeds 12,000 tons. French processes are employed, and its sugars are claimed to be equal to the best in the world. They are almost wholly consumed in the country.

EXPORTS OF RAW SUGAR.

The following tables, based upon figures obtained from custom-house returns for the whole country, are so comprehensive as to require no explanation. It will be noted that last year's shipments to the United States were of considerable volume. Those interested in the sugar trade claim, however, that the tariff of the United States prevents large shipments of sugar of the purity of the Egyptian article, which is nominally about 16 Dutch standard. This claim is one I can not verify.

Classification of exports.

Sugars and destination.	1890.		1891.	
	Quantity.	Value.	Quantity.	Value.
Low grade.	*Cwts.*		*Cwts.*	
England	113,340	$236,010	212,659	$427,705
France	50,016	101,325	8,185	16,525
Italy	11,752	24,325	5,284	10,150
Turkey	1,009	2,080	228	450
United States			2,138	4,115
Total	176,117	363,750	228,494	458,945
High grade.				
England	140,633	443,900	431,122	1,297,565
France	7,868	24,510	49,486	145,650
Italy	208,380	658,060	235,123	706,120
Belgium	668	2,125	1,559	4,565
Turkey	58,217	200,725	44,296	134,025
Other countries	416	1,515	38,610	116,565
Total	416,182	1,330,835	800,196	2,404,490
Grand total	592,299	1,694,585	1,028,690	2,863,435

Sugars and destination.	1892.		1893.	
	Quantity.	Value.	Quantity.	Value.
Low grade.	*Cwts.*		*Cwts.*	
England	157,634	$291,905	203,136	$404,465
France	29,114	53,815	18,135	35,965
Italy	19,303	35,995	7,167	13,765
Belgium	4,447	8,195	222	450
Turkey	205	390	101	227
United States			72,215	130,705
Germany			1,112	2,503
Total	210,703	390,300	302,088	588,080
High grade.				
England	348,633	1,079,570	557,116	1,970,705
France	277,822	845,815	51,461	176,298
Italy	90,529	278,005	138,714	478,233
Belgium	100,813	312,890	70,103	247,995
Turkey	74,779	256,175	63,954	240,524
Portugal	100,761	313,730	22,216	74,173
Other countries	13,645	46,070	6,848	27,952
Total	1,006,962	3,132,255	910,412	3,215,880
Grand total	1,217,665	3,522,600	1,212,500	3,803,960

Shipments and values for ten years (1884–1893).

Year.	England.		France.		Italy.		Turkey.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwts.		*Cwts.*		*Cwts.*		*Cwts.*	
1884	225,417	$643,220	15,234	$57,260	225,630	$856,080	69,475	$289,325
1885	314,478	768,885	113,123	311,470	496,053	1,610,760	56,377	189,925
1886	337,185	797,050	41,251	103,205	332,310	938,760	111,453	365,320
1887	307,223	597,845	53,804	117,280	460,104	1,296,715	72,509	203,965
1888	496,860	1,290,560	35,804	91,405	214,393	671,245	116,564	430,525
1889	350,220	1,028,265	62,448	204,520	199,475	785,845	44,116	207,075
1890	253,973	679,910	57,900	125,925	220,152	622,385	52,225	202,805
1891	643,785	1,725,270	57,671	162,175	240,437	716,270	44,523	134,475
1892	506,268	1,371,475	306,941	899,640	109,833	314,000	74,984	456,565
1893	760,251	2,375,170	69,596	212,263	145,881	491,998	64,044	240,752

Year.	Spain.		Other countries.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwts.		*Cwts.*		*Cwts.*	
1884	....	....	8,557	$36,230	544,314	$1,882,125
1885	....	....	4,051	15,520	984,082	2,896,560
1886	13,375	$38,840	7,300	23,410	842,874	2,266,585
1887	7,841	21,385	81,894	212,265	983,375	2,449,465
1888	47,848	150,095	21,848	72,010	933,317	2,705,840
1889	25,616	90,955	44,169	167,320	726,044	2,483,980
1890	....	....	1,067	3,550	592,299	1,694,610
1891	17,820	54,700	24,488	76,305	1,028,630	2,863,435
1892	6,671	21,260	212,970	659,615	1,217,665	3,522,600
1893	....	....	172,719	483,738	1,212,500	3,803,960

EXTENSION OF CULTIVATION.

A word should be said on the future of cane cultivation in Egypt. While the conditions of irrigation remain as they are, the area can not be materially extended, cane being a crop demanding much water at a time when the Nile is at its lowest point. But if the project for giving the country perennial irrigation by the construction of a vast reservoir at Assouan to husband the flood of high Nile until the summer months, when the country is thirsting for water, be successfully carried out, it is the opinion that the cultivable limits of Upper and Middle Egypt may be doubled, as tens of thousands of acres would be brought within reach of the proposed high-level canalization. This reservoir is practically assured. The Government has the money in hand, it has been approved by European engineers, and plans for its construction are in course of preparation.

Of course, this gigantic undertaking is not intended alone for the sugar-planters, but for agriculture generally. Its completion, however, can not fail to give a great impulse to sugar-raising.

FREDERIC C. PENFIELD,
Agent and Consul-General.

CAIRO, *June 21, 1894.*

THE AUSTRALIAN CRISIS OF 1893.*

As the financial affairs of these colonies are gradually assuming normal conditions, and the excitement incident to the convulsion is so far allayed that the causes leading to the recent business crisis may be studied and accurately defined, I submit the following conclusions. My task has been no easy one for a stranger, and yet I find the diversity of opinion among those who took part in the struggle so great that I half incline to regard the facts as safer in the hands of those who were sufficiently far removed from the scenes to have escaped their painful influences.

It may be of interest here to remark that, considering population, the commercial enterprises, and the sums actually and in good faith involved, the magnitude of the various banking concerns of this country is the most stupendous the world has ever known.

All banking institutions of Australasia are required, under the law, to make quarterly statements of assets and liabilities, and the balance sheets for the quarter ending December, 1892, for the twenty-five banks doing business in Australasia at the time showed total assets £169,764,673 ($826,074,899), with total liabilities of £117,994,440 ($574,160,945), and surplus assets amounting to £51,770,238 ($251,913,978), of which, in round numbers, $100,000,000 was in coin, while there were deposits to the amount of £112,851,165 ($549,133,769). What stupendous sums these are, considering the total population for the seven colonies, which is less than 4,000,000! Let us place the case within the comprehension of our people by a just comparison. The 3,796 national banks in the United States in 1893 had an aggregate capital of $695,000,000 (about five and one-half times greater than the Australian banks) with a population more than sixteen times that of Australasia. The total assets of our national banks for 1889, according to an English statist, was $3,120,000,000, or less than four times as great as those of the Australian banks. It seems, too, that what this statistician calls the "banking power of a people" is greater per capita in the Australasian colonies that in any other country, as shown by the following per capita: Australasia, $185; United Kingdom, $120; United States, $80; Denmark, $55; France, $35; Canada, $30; Germany, $25; Austria, $18; Italy, $10; Russia, $5.50. In what the world regards as the best test of safety and stability—a coin reserve—Australasia was even more fortunate, for in percentage of coin reserve, her banks were over five times stronger than England's, four and one-half times stronger than those of France, and nearly six times stronger than the average of those of the commercial nations of the world. As far as I am able to learn by the books, no nation under any law or banking system of modern times ever had so large a percentage of coin as compared with liabilities. The banks doing business in the seven colonies in 1892 had coin in the vaults to cover 17½ per cent of total liabilities and to cover over 62 per cent of liabilities "at call."

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*See also CONSULAR REPORTS No. 156, p. 33, and No. 165, p. 163.

In a new country, almost as vast in superficial area as the United States, with fabulous mines of gold and silver and other precious metals, with coal and iron and many minerals, with a virgin soil and a climate suited for the production of that most valuable and necessary commodity—wool—and a people spurred into activity by change of environment and the most inviting rewards, it can not be regarded as strange or as indicating a lack of business sagacity that the Australasians plunged into the most daring enterprises ever known, especially as abundance of capital awaited their asking on every hand. Civilization has never yet produced a nation of philosophers, and, with the praiseworthy desire of all persons to better their condition and to get the best and quickest returns from a given effort, it would be assuming much for anyone to condemn the course of the people in respect to their methods. As profits in all legitimate business were most satisfactory; with mining, grazing, agricultural, shipping, and mercantile pursuits yielding increasing incomes; as "millions" could be borrowed at 4 per cent; as gold and silver were being produced in almost fabulous quantities; as the enormous wool clip brought to the country about $125,000,000 as an annual contribution to the wealth of the country; with hundreds of ships loading coal at Newcastle; mining shares going up from £3 to £40 ($14.60 to $194.64) per share; the ports filled with richly laden merchantmen, and a series of years showing an unbroken era of almost unparalleled prosperity, what wonder the usually conservative Englishman should deviate from established business methods by gradually mistaking rather wild speculation for commendable enterprise?

The experience of the world proves that when and where great business activity prevails, the wise and the resolute are usually in the front rank of those who are pushing new enterprises, even to the extent of greatly discounting the future; and too often it is seen the wise lead the foolish, not only to the pinnacle of the "boom," but to the whirlpool of destruction. As early as 1887, Australia was looked upon as the El Dorado where activity, energy, and enterprise gathered rich reward. Labor had been intelligently directed, and many sudden fortunes had been made. In that year, a stream of new capital flowed to the colonies, and with the current came thousands of people to increase the wealth of the country, to swell the hopes of the ambitious, and to carry the spirit of enterprise into that of speculation.

Labor creates things, but desire only creates values; and the coming of more people with more money naturally increased values, as the desires for properties were intensified by there being more people with more wants and more money with which to satisfy such wants. From natural and legitimate causes, there was a natural and legitimate rise in values. But this natural or legitimate rise in values soon aroused the speculative spirit, and people began to discount the future; values rising from the normal to the abnormal line, from the actual to the fictitious, from what the property was worth for the day to what it was hoped it would be worth in a few months. Cities rose as if by magic, mines were opened, stations (sheep ranches) were bought at advanced prices, public works were pushed, and a very high rate of wages and costly living developed the aggregate business of the colonies to stupendous proportions. Times were good, every industry was profitable, all were making money; the banks were strong, lending to anybody who could give security, and, with stations, mining stock, and city properties, "collaterals" were abundant. The banks contributed to the marvelous prosperity of the country beyond question.

But with this increased activity and seeming prosperity, many evils followed as results of the tempting rewards offered to enterprise. Rents were high, lands were changing hands almost at will, stations were being improved, and general speculation became rife. Here was a rich field for the adventurer and for the unscrupulous and persuasive persons who infest all new and growing countries, to fatten on the follies of those seeking sudden fortunes. The country became filled with loan associations, building societies, mortgage companies, and investment agencies. Many of them were worthless and delusive schemes managed by persons with nothing but skill in deception and intrigue. These companies, associations, and corporations represented hundreds of millions of pounds sterling. They took deposits as banks, discounted notes, made loans, bought mortgages, and entered into all sorts of schemes for gain. Of course, many were organized for plunder, and, as crime can not always prosper, many lived but a short time. Failures among these institutions began early in the eighties, and before 1890 hundreds of them closed, carrying down thousands of men, wrecking many fortunes, and jeopardizing a vast amount of capital. The pendulum seemed to have swung too far, and, although as yet but one bank had closed its doors, the forward swing was checked, the hurry was suspended, business slowed down, the people began to pause, and readjustment seemed imminent months before the "boom" had really collapsed; but the people refused to prepare for the financial change.

The year 1890 was a year of general mistrust, inquiry, and failing hope, while the year 1891 was one of dullness and ill-concealed fear. In 1892, the financial clouds were thickening, the rumbling became more ominous, and the people were vainly searching for somebody on whom to lay the blame for the financial and industrial depression.

But early in 1893, the deluge came, and the world never witnessed—in amounts involved—a more stupendous financial crisis, considering the population of the country.

So thick and fast came the disasters, that in six weeks from the first breach, one-half the great financial concerns of a continent had gone to the wall.

The following table shows a list of the suspended banks, with last balance sheets, total deposits, assets, and time of suspension:

Name of bank.	Date of last balance sheet.	Date of suspension.	Deposits.	Assets.
Commercial Bank of Australasia	Dec. 31, 1892	April 5, 1893	£12,077,996	£14,694,056
English, Scotch, and Australasian Chartered Bank	Sept. 30, 1892	April 13, 1893	5,758,668	826,349
Australasian Joint-Stock Bank	Dec. 1, 1893	April 16, 1893	10,859,630	13,078,494
London Chartered Bank		April 22, 1893	6,588,236	8,268,349
National Bank of Australasia	Mar. 31, 1893	May 1, 1893	9,069,180	12,085,987
Colonial Bank of Australasia		May 6, 1893	3,558,210	4,394,280
Bank of Victoria	Dec. 31, 1892	May 10, 1893	7,106,402	8,746,785
Queensland National		May 15, 1893	8,528,789	10,662,970
Commercial Banking Company of Sydney		May 10, 1893	11,456,157	14,025,042
Bank of North Queensland		May 15, 1893	350,892	651,303
City of Melbourne Bank		May 17, 1893	4,827,987	5,835,783
Royal Bank of Queensland		do	887,269	1,359,605
Total			71,069,416	94,629,003

When the inevitable seemed to have arrived, the Victorian Government sought to allay the excitement and aid the banks by proclaiming a five days' holiday; but this really served to intensify the discontent, as it impressed the people with the seriousness of the situation. However, some of the banks refused to avail themselves of this rather doubtful refuge and continued to carry on business with efforts to conceal their weakness. It can not be said that the proclamation did evil, but it may be seriously questioned whether it did any good.

Whether benefiting by the experience of Victoria or guided by greater wisdom and statesmanship, it is needless here to argue; but the remedial acts of the Government of New South Wales were more palliative, and on their passage the rush toward riot and ruin was checked.

By virtue of a law which had been carried through by Sir George R. Dibbs, the then premier of New South Wales, who seemed to see clearly the coming of the storm, the executive head of the Government—Lieutenant-Governor Darley—issued on the 15th of May, 1893, the following proclamation:

Whereas by the "bank issue act of 1893" it is provided that the governor in council may, from time to time, as he thinks fit, by proclamation under his hand and published in the Gazette and in at least three newspapers in the colony, declare that the notes payable on demand by any bank therein named, and then or thereafter to be issued, circulated, or re-issued within the said colony under any lawful authority in that behalf, shall, during the period limited by the proclamation, be everywhere within the said colony a good and legal tender of money to the amount therein expressed to be payable: Provided that no proclamation shall be made unless the governor in council is satisfied that as between the bank and its creditors its assets exceed its liabilities by at least the sum of the paid-up capital and the reserved profits. And whereas the governor in council has been satisfied as between the banks hereinafter mentioned and their creditors their assets exceed their liabilities respectively by at least the sums of their paid-up capitals and their reserved profits. Now, therefore, I, Sir Frederick Matthew Darley, the lieutenant-governor aforesaid, in pursuance of the provisions of the said-recited act, and with the advice of the executive council, do hereby declare that the notes payable on demand by each of the banks herein named—that is to say, the Bank of New South Wales, the City Bank of Sydney, the Union Bank of Australia (limited), and the Bank of Australia—and now or hereafter to be issued, circulated, or reissued within the colony of New South Wales under any lawful authority in that behalf, shall, for the period of six months from the date hereof, be everywhere within the said colony a good and legal tender of money to the amount therein expressed to be payable.

The effects were magical. After that day, there were no more failures in New South Wales, and it is believed the beneficial influences extended even beyond the colony.

For more fully carrying out the measures and purposes of the original law and the proclamation, further legislation was immediately had, providing that such banks should pay such notes in gold when presented at the head office after the expiration of the original or supplemental proclamation. The bill provided further that at any time within six months after the expiration of any original proclamation, as before alluded to, the colonial treasurer, on being satisfied that any note, as defined by the law, had been duly presented at the bank and not paid, shall pay the same in gold to any bona fide holder, except a bank, and provided that the colonial treasurer be empowered to examine into the condition of the bank at his discretion. Three days later (May 26, 1893) an act affecting suspended banks then or thereafter went into operation, providing that any current creditor's account, payable in the colony, might, upon application to the liquidator (the person deputed by law to manage the affairs of said bank), receive a certificate in form prescribed by law, and the colonial treasurer might advance to the holder any amount, not exceeding one-half the represented amount due the creditor, the bank to be notified by the treasurer of such advances and the treasurer to have all the "rights of the creditor" and be entitled to shares and interest in securities which might be issued or received in the winding up of the affairs of the bank. The original creditor had the right, at any time inside of five years, to redeem the certificate. To make the law operative, the treasurer was empowered to issue treasury notes to an amount not exceeding £2,000,000 ($9,732,000), in form and manner prescribed, etc., the notes to be payable in gold after the expiration of five years.

As soon as the scope and purpose of these salutary laws were understood, the people gathered new courage, as the suspensions had ceased. Immediately began the work of "reconstructing" the banks, of reorganizing business methods, and of reassuring the public confidence. It must not be thought, by the closing of the doors of these thirteen banks in Australasia, however gigantic the sum involved, that the financial system was wrecked or the people left without currency, for there was probably more money floating about among the people performing the daily duties of exchange than was possessed by any other people of like numbers; besides, back of the great enterprise and enormous business stood, like a breakwater against the waves of passion and fear, twelve of the twenty-five great banks of Australasia, representing sufficient capital to answer the necessities of almost any people but the Australasians under normal conditions.

The following is a list of the banks which stood the pressure of the times and saved the business of the country from a more complete ruin:

Bank.	Last balance sheet.	Deposits.	Assets.
Bank of New South Wales	Mar. 31, 1893	£20,418,942	£24,915,614
Bank of Australasia	Oct 10, 1892	15,127,806	19,890,696
Union Bank of Australasia	Feb. 28, 1893	18,118,495	24,017,482
Bank of New Zealand	Mar. 31, 1893	8,071,783	10,922,466
Bank of City of Sydney	June 30, 1893	1,251,753	1,965,335
Colonial Bank of New Zealand	Feb 28, 1893	2,320,219	3,804,386
Commercial Bank of Tasmania	June 30, 1893	1,696,092	2,078,105
National Bank of New Zealand	Mar. 31, 1893	1,605,026	2,441,042
Bank of Adelaide	Mar. 27, 1893	1,214,609	1,982,150
Royal Bank of Australasia	Mar. 31, 1893	330,105	669,808
National Bank of Tasmania	June 26, 1893	314,682	556,216
Western Australian Bank	Sept. 31, 1893	451,838	606,298
Total	....	70,921,349	93,849,598

It is seen by the above table that Australasia had a banking capital, even with the thirteen banks in suspension and their capital tied up, that would compare favorably with the banking capital of other countries, population considered.

The shock of the revulsion was very severe; but the climax was born of the people's fears, and the results were the inevitable outgrowth of the industrial policy of the country. With a shadow of business depression hanging over the commercial world; with the wrecking or failures of financial institutions in the old countries which had been regarded as types of stability; with banks breaking, business associations tottering, great firms clearing out at ruinous discounts, and the bankruptcy of nations; with almost universal depression in trade, industry languishing, labor becoming idle and discontented, ominous warnings of war in Europe, and the industrial system striving to readjust itself on lines in harmony with the new methods of production and new conditions of social progress, the people's fears precipitated the crisis.

While the convulsion was not altogether unlooked for, hope had held the fears in check, and strenuous efforts by financiers to weather the storm eased, in a measure, the shock when the stroke fell.

The effects upon business and the public temper of a series of failures of such magnitude can easily be realized. But the stupendousness of the apparent catastrophe overawed the public mind, and, instead of noisy demonstrations of passion, the people seemed dazed with the change, and a feeling of mutual sympathy and forbearance pervaded all ranks of society. The stroke fell first and saddest at Melbourne, Victoria, but the disaster rapidly spread over the other colonies.

Close in the wake of these suspensions, came the most determined efforts for "reconstruction" and the continuance of business. Considering the magnitude of the sums involved, the actual results of the suspensions on business furnish the most surprising evidence of the capacity, confidence, and tenacity of the business classes of Australasia. Usually, there follow in the train of such financial catastrophes great excitement, many business failures, idleness, suffering, and starvation; but, in this case, there were very little excitement, very few business failures, and but little suffering as direct results of the suspensions.

Considering the magnitude of these financial changes and the smallness of the ruin caused by them to legitimate business, I almost hesitate to call the suspensions "failures." It seems more like a readjustment of affairs—putting the brakes on a too rapidly moving train or shifting the cargo when the ship is listing from improper management. Instead of the banks being insolvent or collapsing, their solvency was soon proved, and their strength was but temporarily paralyzed by securities which, though good, were unrealizable by reason of unfortunate coincidences and a diseased public sentiment.

With an alacrity which showed a premeditated change, the managers of the suspended banks began at once to reorganize—or "reconstruct," as the popular phrase became—for early resumption of business.

The schemes for reconstruction varied with the various banks, but each sought to secure the best interest of those concerned compatible with the circumstances, not by immediate payment, and not without inconvenience to creditors through delays, but by providing for final adjustment on equitable principles.

While the schemes took rather a wide range as to details, results varied little with the different institutions. Some of them reorganized by winding up all old affairs and dividing capital into shares, preferential and otherwise; issuing to creditors certain of their demands in shares of the new concerns and other certain portions in deposit receipts bearing interest from 3½ to 4½ per cent, to be paid at certain times specified, ranging from an outside limit of five years, as in the case of the Commercial Bank of Australia, to an inside limit of twenty years, as in the case of the London Chartered Bank of Australia. Current-account creditors, in nearly all cases, received the most liberal terms.

As all these financial institutions were under reconstruction schemes of undoubted soundness, the shares issued to creditors were usually sure to yield a satisfactory dividend, and, the interest to be paid on deposit receipts being nearly up to the normal interest line, it will be seen that the actual loss to creditors was reduced to a minimum. The greatest loss appears to have been to the shareholders of all the concerns, and not to the creditors. It may be here remarked that usually there were amicable arrangements between bank officials or "liquidators" and creditors, and the reconstruction schemes, as a rule, were acquiesced in by the depositors. There was commendable sympathy and forbearance among all interested parties.

From April 5 to May 17, but forty-two days, twelve of the strong banking institutions, representing £103,315,000 (over $500,000,000) tottered over like a frame cottage in a western cyclone, but inside of sixty days from the last suspension not only was business resumed in all the twelve banks, but confidence and good feeling were well-nigh restored. So far, all these banks have kept their promises to creditors and the public, and in most cases they have more than kept faith, as current-account creditors have been largely paid in advance of promises. Deposit receipts are becoming negotiable, and shares are increasing in value or earning dividends.

The crisis has passed, the public mind has become tranquil, industry is assuming a normal condition, business is carried on by conservative and legitimate methods, and the financial clouds that hovered over Australasia are now dissolving, and the causes for the great "crisis" will be soon revealed.

CONDITIONS LEADING TO THE CRISIS.

As the world is more practical than philosophical, it is much easier to record facts than to discover causes. However, it is natural to rest from the mental activity of watching the workings of an interesting phenomenon by inquiry into the genesis of its operations.

The causes assigned for the financial revulsion are as numerous as the independent thinkers who have given the subject attention. However, the current assertion by the people, if not the current belief, is that overborrowing led to overlending, and these to speculation, inflation, and extravagance, to check which this scourge of financial ruin was a necessity.

Mr. A. G. V. Peel, whose memorandum on the "Australian Crisis of 1893" was issued, it was claimed, as a State paper by the lords of the British treasury, says:

> According as Britain opens or closes her hand to lend, so the prosperity of those colonies (Australasia) advances or declines. This tie of mutual credit will last as long as they wish to borrow and will not repudiate and we are rich and will lend.

Nearly all the local writers, speakers, and critics have given expression to kindred opinions, and with much vehemence have denounced the actors of the boom period as unscrupulous adventurers, and declare that the most extreme inflation and wild speculation were carried on, until the bubble burst and left the country despairing and struggling in the slough of despond.

Sir. George R. Dibbs, the present premier of New South Wales, has recently published a very able protest against Mr. Peel's paper, but nowhere does he dissent from the too general theory that "overborrowing" and "overlending" led to "extravagance, inflation, and speculation," which finally culminated in the crisis of 1893.

The contention of all the writers whom I have read—Australian, English, or American—is the same, that speculation, inflation, and extravagance were the necessary and legitimate results of vast importations of new capital faster than it could be absorbed by the legitimate business of the country, thus coming to the conclusion that capital is a bad thing to have in abundance. That people can listen without a smile to learned men talking gravely of too much wealth, too much health, or too much general prosperity and happiness, proves that we are not sufficiently wise to escape many patent errors. Instead of the vast capital seeking employment being the cause of the "inflation, extravagance, and speculation," may not a law, a custom, a governmental policy, or sentiment have caused the surplus capital to seek these channels by diverting too much of it from more legitimate pursuits, industries, and investments? In this age of intense activity, of steam and electricity, and rush for gain, it is not easy to imagine how a person or a people could have too much capital; but experience shows that where capital is diverted from its legitimate employment, readjustment must come through revulsions and financial and industrial depressions. However, the financial history of Australasia is unique in the magnitude of its operations and the boldness of the actors who have rapidly passed upon the business stage.

The Old World was worn out, India was monopolized, Africa unexplored or in dispute, the greater part of South America was not ripe for commercial invasion, Canada had no promising fields, and the United States were occupied by a daring and resolute people, so far-off Australasia loomed up as the fit place for enterprise and adventure. Distance gave a charm for the daring and the dreamer; enormous fortunes had been made in commercial, mining, and pastoral pursuits; in area it exceeds most of the governments of the world, and a virgin soil invited occupiers to reclaim it from nature. It was no longer an experiment; so, with an almost fabulous surplus capital in England looking for profitable employment and no other promising field, a stream of money began to pour into Australasia.

Early in the history of the colonies, it became the governmental policy to develop many industries for public utility which are usually left to private enterprise, such as railroads, tramways, waterworks, sewers, lights, roads, bridges, etc. Vast schemes for public works were inaugurated, and extensive borrowing was resorted to. A sturdy integrity of purpose kept the credit of the colonies high, and that insured a low rate of interest, and this, again, tempted the governments and the people to greater borrowing. Never, probably, in the history of finance was there so much capital transferred from one country to another as was brought from England to Australasia from 1880 to 1890, especially when we consider the meagerness of the population.

The following table, taken from Mr. Edward Pullsford's pamphlet on "Capital and Finance in Australasia," gives the capital in Australasian securities held in Great Britain at the dates shown:

Colony.	1883.	1887.	Increase.
Victoria	£50,000,000	£67,000,000	£17,000,000
New South Wales	48,000,000	77,000,000	29,000,000
New Zealand	49,000,000	58,500,000	9,500,000
South Australia	22,000,000	30,000,000	8,000,000
Queensland	23,000,000	36,000,000	13,000,000
Tasmania	6,300,000	9,500,000	3,200,000
Western Australia	1,500,000	2,700,000	1,200,000
Total	199,800,000	280,700,000	80,900,000

As stupendous as these sums appear, the same author claims that, in the next five years, the borrowing so increased that the British investments in the Australasian colonies reached the gigantic figures of £361,000,000 ($1,756,260,000). It is further claimed that there is fully £39,000,000 ($189,774,000) of British capital drawing profit from private enterprise, so that, actually, the people of Australia seem to owe the people of Great Britain £400,000,000 ($1,946,400,000).

The population of Australasia is less than 4,000,000, or, say, 4,000,000 in round numbers. This makes an average indebtedness of £100 ($486.60) per man, woman, and child, or £500 ($2,433) per family. At an average of 4 per cent, it would cost in interest $20 per capita, or $100 per family. Mulhall estimates the wealth of Australasia at £1,373,000,000 ($6,703,018,000), so that the debt of Australasia to Great Britain amounts to almost one-third of the entire wealth of the continent of Australasia. Then, it seems, as an Australian writer puts it, that the wealth of Australasia and the wealth in Australasia are far different things. However, this £400,000,000 ($1,946,400,000) debt may be divided between the public and private enterprise, yet the interest at 4 per cent equals £16,000,000 ($77,856,000), or about $20 per capita, or $100 per family, and it can only be paid from industry or by reducing the country's wealth or capital. The annual wool clip of Australasia is about 800,000,000 pounds in grease, worth an average of 8*d.* (16 cents) per pound, or £25,600,000 ($124,569,600); so it will take of this chief crop or product more than one-half to pay the interest on English capital.

The rapidity with which this new capital poured into the colonies and its fluctuations are both surprising and interesting. The following table, from Mr. Pullsford's pamphlet, shows the amount per 1,000 of the population reaching three of the colonies at the times given and largely borrowed:

Years.	Victoria.	New South Wales.	Queensland.
1877–'81	£1,883	£7,523	£4,745
1882–'86	13,320	25,958	34,657
1887–'91	34,165	3,982	12,427

It will be noticed that in the third period £34,000 ($165,444) reached Victoria for each 1,000 persons, or £170 ($827.22) per family of five; in New South Wales it was equal to £130 ($632.58) per family for the entire population. Is there any wonder that business was prosperous, money easily borrowed, and speculation encouraged?

One of the surprising features that appears in this investigation—one that proves the abnormal development of the country—is a comparison between the net exports and the interest on the public debt and its effect on the purchasing power of the country.

I again use a table from Mr. Pullsford's pamphlet, which is self-explanatory if carefully studied:

Description.	1861.	1871.	1881.	1891.
Total exports of Australasian products............	£16,609,783	£23,095,325	£31,210,972	£36,731,351
Aggregate interest of Australasian indebtedness.	2,000,000	4,000,000	8,000,000	15,000,000
Balance available for purchase of imports.........	14,609,783	19,095,325	23,210,972	21,371,000
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Percentage of exports received to pay interest..	12	17	26	41
Percentage of exports available to buy imports..	88	83	74	59

With an export trade increasing with satisfactory rapidity, it seems that, without any great emergency to call for vast expenditures, the debt should not have so rapidly outrun the country's industrial development. The increasing rapidity with which this new capital was flowing to the colonies may be seen by the fact that, for ten years ending 1871, £28,000,000 ($136,248,000) came, and for the ten years ending in 1891 the enormous sum of £103,000,000 ($501,198,000) came to swell the currency of the country.

On all these vast sums, the interest had to be paid, and, whether on public or private indebtedness, the money had to come from private sources, as the public is not a producer. The average interest of the colonies grouped together, in 1892, amounted to 27 per cent of their entire revenues. These facts, and many more, the English and the colonial writers have arrayed and given to the world as the causes for the recent colossal financial revulsion. The further fact, too, that the coming of new capital had decreased since 1890 until it had almost entirely ceased, the depression deepening with the decrease, seems conclusive evidence from patent causes.

The English charge the Australasians with wreckless methods, senseless speculation, and criminal folly in overborrowing, while the Australasians retort that English capital was hurled at their heads, and that, being further removed from the exciting scenes of speculation, the lenders should have exercised some sagacity. But the burden of every complaint about the situation is that overborrowing, with attendant evils and the payment of interest, undermined the country's strength, and that a check of the inflow of new capital precipitated the catastrophe.

CONTRIBUTING INFLUENCES.

After a careful examination of the available facts regarding the crisis and the antecedent financial, social, political, and industrial situation of the colonies, I am persuaded that the current opinions as to the causes are erroneous. They were formed from viewing a series of coincidences, and not from a careful course of reasoning. The importance of the question merits more than a casual inquiry, for, the causes once determined, the experience may be a guide for the future.

Not only the banks, but the governments and the whole social machine, as well as the politics and financial methods of the country, have been criticised most severely as having contributed to the business system which culminated in the crisis of 1893. But the virtues of the public policy were denounced, while its real faults were obscured. The criticisms are based upon a misconception of the fundamental truths of the situation.

As a matter of fact, the banks were ably managed, and the borrowing by the governments, as well as by private persons, was but sagacious financiering. The "inflation, extravagance, and speculation" came largely as a result of diverting too much of the new capital from productive industries, through influence deeply imbedded in the social structure of the colonies and augmented by the geographical position of the continent. This seems to me to be the key to the mystery.

It may be interesting to glance at the present financial situation of the colonies as governments—that is, to compare assets with liabilities—that we may gauge the wisdom of the governmental policy in shaping the results. Mr. Coghlan, the able and zealous statistician of New South Wales, tells us that the public debt of the seven colonies was £202,046,983 ($983,150,629) in 1893, which sum seems enormous for a population of but 4,000,000 people. The money was all borrowed—about nine-tenths of it from Great Britain and one-tenth from local capitalists—and the interest being, say, 4 per cent on an average, there is an annual "drain" of about £8,000,000 ($38,928,000) from the country. But it must be remembered that, from the beginning, the governmental policy of the colonies has been more socialistic than in any other country, and many of the public utilities have been created and remain the property of the governments. These public utilities, so indispensable to the growth and prosperity of the country, were created by borrowing, as the industrial conditions of the country would not have justified their construction by private enterprise. Owing to the necessity of governmental aid in their construction, it was determined by the early statesmen to retain governmental control and ownership of the utilities created by the public credit. These utilities consist of railways, tramways, telegraphs, waterworks, sewers, docks, wharves, markets, etc., and are enormous in aggregate value. What they are and how valuable, will be seen and explained further on.

An Australian writer raises a warning voice as to the danger of England absorbing the wealth of the world through her interest roll, but while she was collecting from $20,000,000 to $60,000,000 in interest annually from Australia, Mulhall says she was losing, from 1887 to 1888, nearly $200,000,000 annually by the shrinkage of values. During that time, the borrowing country was growing wealthy by wondrous strides; in fact, more rapidly than any other country. The people of England lent money to Australia at 4 per cent, and the Australasians pay the interest and pocket from 4 to 5 per cent off the borrowed capital. Had not the Australasians borrowed England's 4 or 5 per cent capital, they could not have opened the mines, stations, and other industries which have paid from 10 to 40 per cent profit, and the country would have been worth many times less the total interest paid than she is to-day. Thus, instead of draining Australasia of her wealth, England lent her the motive power for production and took a small part of the newly created wealth as her reward. Borrowing accelerated development in Australasia just in proportion as the normal profit line in Australasia was above the normal interest line in England, and would have continued to do so had not productive enterprise been checked by legal barriers, with capital so largely diverted from productive into speculative channels. I set it down as a true business proposition that the policy of the people of Australasia in borrowing enormous sums at low rates of interest was evidence of enterprise and sagacity. Borrowing, instead of ruining or paralyzing Australasia, has made it one of the richest countries on earth, in proportion to population, and has given it a larger circulating medium with which to conduct its exchanges. The money was wisely borrowed, though much of it was unwisely used.

But the continued and heavy borrowings by the colonies, as governments, has received even more unfavorable criticism and more radical expressions of disapproval than private borrowings. I do not propose to defend or condemn the governments or the people for the course pursued, but aim only to show that there is a popular misconception as to the basic influences which led to the recent crisis.

Australasia was peculiarly situated. This is a vast continent, half-way round the world from the source of supply from which it was destined to be peopled. The population was sparse, the industries scattered, but the resources very valuable and their development profitable. Public improvements, conveniences, and utilities were a necessity. The people to tax were few, the property not great in quantity or value, and the capital among the people was yielding a percentage of profit immeasurably greater than the current rate of interest in the London market. To construct the needful railroads, the necessary public buildings, the tramways, sewers, waterworks, telegraphs, telephones, docks, and wharves, capital worth 4 per cent was borrowed from England, instead of capital worth 10 to 40 per cent being taken from the people. Who can doubt the wisdom of the policy? It is claimed by many that these utilities should have been left to private enterprise, which, by the aid of subsidies and bonuses, might have been put into operation. That is true; but very heavy bonuses and bounties would have been necessary, and that would have necessitated either heavy taxation or heavy borrowing or heavy sacrifice of the public property, and what would the people have to show for it? True, the colonies owe the £202,046,983 ($983,150,629), which is an apparent burden of debt heavier than that carried by almost any other people; but these utilities are reproductive, and well-informed gentlemen tell me that it would be easy to organize a syndicate that would readily pay the entire public debt for a deed to the property created by the money borrowed. This would leave no debt and the country well provided with works of utility and convenience, with no tax for bonuses.

The chief item in an invoice of the public properties or utilities of Australasia is her 11,665 miles of railways, whose construction cost £10,113 ($49,210) per mile, aggregating £117,968,937 ($574,036,847), which yields a net revenue of 2.2 per cent, or about £2,580,000 ($12,554,280). Most of the colonies, too, own and operate the street railways, the telegraphs, telephones, waterworks, docks, sewers, markets, etc., and derive therefrom a net revenue of an average of 3.5 per cent on total cost. These properties were all created from borrowed capital. As the statistics for most of the colonies are rather meager, I will content myself with an examination of this feature from those of New South Wales as a basis for approximate calculations for Australasia.

I hear it reproachfully asserted on every hand that "New South Wales is saddled with an enormous debt," and that her strength is being sapped away by the stern demand for interest which comes from a far-off land. True, New South Wales is confronted with a debt, largely due to foreign bondholders, of £54,000,000 ($262,764,000). This public debt amounts to about £50 ($244.30) per capita, or £250 ($1,216.50) per family, and the annual interest at 4 per cent amounts to £2,160,000 ($10,510,560), which seems a great burden for the population. But to offset this public debt she has reproductive property, to wit:

Value of public railways and tramways	£39,410,000	
Value of waterworks	3,372,000	
Value of sewers	1,600,000	
Value of docks and wharves	1,800,000	
Value of telegraphs and telephones	800,000	
Total reproductive utilities	*46,982,000	
Net revenue		£1,446,000
Value of leased lands	84,100,000	
Revenue from rents		936,000
Due on land sales	14,100,000	
Interest on same		372,000
Total revenue from public property		†2,754,000

As the sale and lease of lands was largely due to the construction of these utilities, it is, I think, fair to credit the incomes from rent and interest on lands sold on time sales to the policy of creating the utilities and the debt.

Now, as the annual interest on the public debt of £54,000,000 ($262,764,000) is about £2,160,000 ($10,510,560), if I have reasoned correctly, instead of the debt of New South Wales being a burden, it produces a net revenue of £550,000 ($2,476,300) largely by the policy of its own creation. Do such results merit the condemnation of reasonable men? Besides, New South Wales has expended in roads and bridges £12,400,000 ($60,338,400); public buildings, £8,200,000 ($39,901,200); rivers and harbors, £2,800,000 ($13,624,800); total, £23,400,000 ($113,864,400).

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* $228,614,412.

† $13,400,964.

With all of the inconsiderate criticisms of the Government for "folly and extravagance," I find no country that can show a more progressive career or a sounder financial condition through its history as revealed by the pages of its ledger. I assume that the condition of the other colonies is equally as good, and, if so, the people are to be congratulated and not commiserated.

To balance Australasia's public debt of £202,046,983 ($983,150,629), she has, in round numbers, £118,000,000 ($574,188,000) worth of public railroads, or one item of reproductive property whose value equals considerably more than one-half the public debt, and, if the other colonies have a proportionately great amount of reproductive utilities, the reproductive property created from the capital for which the debt was made almost equals the total amount of the debt. But I am informed by persons of good business standing that the reproductive property of the colonies created from the borrowed moneys could be sold, in normal times, for an amount equal to the public debt, as I before remarked.

On the books, then, the colonies have a public debt or liability of £202,046,983 ($983,150,629) for the 4,000,000 people, or about $250 of debt for every man, woman, and child on the continent. This shows a gigantic burden. The per capita debt of France is $116; of the Netherlands, $95; of Great Britain, $87; of Prussia, $37; of Russia, $30; and of the United States, $14. The comparison seems unfavorable; but to offset these heavy liabilities, the colonies have, what no other people on earth have, reproductive assets equal, or nearly so, to the entire debt.

In a new and growing country like Australasia, even borrowing money from England to pay England her annual interest was not a burden upon industry nor a drain upon her currency, capital, or resources. In that case, capital worth 4 per cent has been borrowed to save paying or taking capital worth a much greater per cent out of current business. Many persons have grown wealthy while living in a rented house who, had they purchased the house, would have remained poor, as they would have had no capital on which to conduct a business. Yet, what is paying rent but paying interest on the capital the house cost without owning the possible advance in the value of the house?

From statistics compiled by Mr. Coghlan, and by a method of general average, I conclude that Australasia has paid in interest, largely to England, the sum of £94,000,000 ($457,404,000) since 1861. I think this is approximately correct. This £94,000,000 has been paid by the productive energies of Australasia for the motive force of production—money. We are told that this constant and enormous drain has impoverished the colonies. Let us see what effect it has had on the material progress of Australasia. Mulhall thus estimates the wealth of Australasia:

1838	£26,000,000 =	$126,516,000
1865	181,000,000 =	394,146,000
1870	320,000,000 =	1,557,120,000
1888	1,373e000,000 =	6,681,018,000

Mulhall, as a comment, says: "The average annual accumulation per inhabitant has been more than double that in the United States, where it has never exceeded £8 10*s*. (41.36\frac{1}{10}$)."

Can anyone really believe that the wealth of Australasia would have progressed so marvelously without the use of cheap capital to aid in her development?

TRACING THE CAUSES.

As I think I have quite clearly shown that there has been a very great misconception, not only among the people, but among writers and financiers regarding the abnormal influences which culminated in the memorable financial crisis of 1893, I desire to point out the true causes and to show that they were deeply imbedded in the social and political structure of the governments, while the immediate cause was simply a social panic resulting from an overwrought public fear and anxiety regarding financial and industrial affairs, and the crash was a necessity to business reorganization and progress.

The country was uninhabited, save by scattered tribes of a weak and stupid race; it had an enormous superficial area, a genial climate, rich soil, and fabulous mines, and it was ready for the ownership and occupancy of any who cared to possess it. The English "preëmpted" the island. The bold, ambitious, and enterprising men of fortune joined the reckless adventurer and those whose lots could not be worse as the vanguard. They brought with them their traditional and inherited notions of government and social progress. Instead of developing a new policy suitable to the changed environment, the new civilization was to be manacled by old forms. I think those in authority failed to realize the wonderful possibilities of this magnificent country or the demands of the Anglo-Saxon race when transplanted to a new and more vigorous soil. In the motherland, the ownership of land gave fortune, favor, luxury, and power; so here, where none stood to dispute limits, the boundaries of the new estates equaled the ambition of the new claimants. The original formulator of the land policy in Australasia was the first contributor to the recent financial crisis, for, as an inevitable result, the rural population was limited, with a tendency increasing progressively of forcing enterprise and population into certain centers. I have neither the right nor the desire to criticise the policy of these people, but I wish to show that the present condition is the inevitable outgrowth of the policy.

Owing to the favorable climatic conditions, the chief industry of the new Australia became pastoral—largely wool-growing. It was an industry in which almost unlimited capital and territory could be utilized by individuals. Much surplus capital, talent, and enterprise were transferred from England to Australasia. Estates larger than some American commonwealths or European principalities were carved out of the continent by sagacious Britons as sheep runs. Of the early comers under the new state of things—say beginning in 1850—men of three classes came in: a rich class, able to enter into the daring pursuits of pastoral life on a magnificent scale; a poor class, willing to accept any condition which improved them on the whole; and an adventurous class, who came in swarms to the new El Dorado. The rich class was royalist by instinct and aristocratic in taste; the poor class, passive and dependent; and the third class, alert and active, plucking all and "gathering gear by every wile." The rich class molded the governmental policies in accordance with its tastes and inclinations; the adventurous class has largely controlled them by methods in harmony with its tastes and interests; and the poor class now threatens to destroy them, as that seems to them to be to their interest. I have traveled in many lands, but in no place have I seen the classes, with the same nationality, so well defined or the lines so strongly drawn. In no country of like population, can there be found more wealthy people, more very poor people, or more who thrive on the follies of the other two classes.

For this condition of the people, the governmental policy, in my opinion, is chiefly responsible. From early time, it has been spoken, written, and taught that for profitable grazing large capital and large tracts of land were necessary; so men with small means became managers, clerks, or servants of their more fortunate neighbors or of the governments. The vast landed estate, with its powerful owner, who entertained on the station (sheep ranch) like a prince, the difficulty of the poor getting land, the lack of opportunities for self-employment, and the vast civil service in a country assuming such functions as these colonies have are influences that are sapping away manhood's noblest attribute—self-reliance.

A casual examination of the books reveals some interesting facts regarding the land question, from which a student may draw the most valuable inferences. I am able to collect current information on this land question from but two of the colonies—New South Wales and New Zealand—though I am informed by persons assuming to know that land monopilizing has gone to even greater extremes in the other colonies.

New South Wales has alienated 42,000,000 of her 198,800,000 acres, of which 21,884,299 acres, or over one-half, are owned by 677 persons. This makes the average estate, in over one-half of all the owned land, over 32,000 acres; while nearly one-half of the alienated land of New Zealand is owned by but 337 persons with an average holding of about 25,000 acres. New South Wales has 132,000,000 acres of leased lands held by 36,436 persons, making the average holding about 3,500 acres; and New Zealand 14,000,000 acres, according to Mr. Coghlan.

The present law seems to indicate a desire to encourage settlement on the lands; but it is locking the stable after the horse has been stolen, for but 20,000,000 acres, mostly, if not entirely, arid, is all there is left.

Mr. King, Secretary of the Pastoralists' Union, of New South Wales, sends me some curious figures. In but few cases does he give me the size of estates or holdings, and in none does he distinguish between leaseholds and freehold. But I see that Mr. Caughey has two stations (sheep ranches), one of 1,214,877 acres with 284,500 sheep and another of 844,812 acres with 194,000 sheep. The Wamba Company has 2,095,364 acres and 203,168 sheep. Toban & Son have one of 236,000 acres and 215,120 sheep and another of 304,000 acres and 109,852 sheep. James Tyson has eight immense holdings, the size of but two being given, one being 180,478 acres and the other 391,430 acres. Samuel Wilson has four estates, the size of one being 120,000 acres and the other 640,000 acres. The Scottish Investment Company has eight estates, spreading over the continent like provinces, on one of which there are 362,075 sheep and 6,262 cattle. The "stations" are numerous that have hundreds of thousands of sheep, and in all the cases into which I have examined the number of acres runs away above the number of sheep. A gentleman tells me these estates are mostly freehold. The growing tendency is toward larger holdings. The number of holdings of 15 to 200 acres increased from 1879 to 1890 (eleven years) but 4 per cent, and the holdings of 200 to 400 acres increased but 14 per cent in the same time, while the number containing 10,000 acres and upwards increased over 100 per cent. This land monopilizing was, in my opinion, aggravated by the "Crown lands act of 1861," providing for "free selection" of lands in limited tracts before survey, without regard to the rights of "squatters"—a designation in Australasia for graziers—who held large tracts under Government lease, as thousands of adventurous persons "selected" the most-favored spots, only to force the squatter to buy them off, sometimes at ruinous prices. This not only enlarged the freehold estates, but it plunged hundreds of the graziers into almost hopeless debt and forced many into bankruptcy and ruin.

Now, while it is true that New South Wales has 20,000,000 acres out of her total 198,800,000 acres neither alienated nor leased, it is probably also true that all the lands in this colony available for agriculture or pastoral purposes without enormous capital are at present held by some claim recognized by law, and those who come now, or who have come in the last few years, especially with small capital, come to a world already occupied.

I know a young man whose family occupies an immense estate—he does not know how many acres—in a good part of the country which his father many years ago bought from the native king for half a crown (a silver coin worth 50 cents). This young man's ancestors had, of course, previously acquired this "kingdom" from the British Government. As a further effect to discourage rural settlement, the price for Crown lands—£1 per acre—is and has been more than double the price paid for the best public lands in the United States before such lands were given outright to actual settlers. I am not questioning the wisdom of these land laws when the policy was inaugurated, but the effect has been what any student would have foreseen—to concentrate the population in cities and towns and to broaden the gulf between the rich and the poor, the employer and the employed.

A contributing cause, too, for this centralization of population has been the great distance between this country and European countries. From

London to Sydney it is forty-two days by steam, or four times as great a distance and over seven times as far in time as from London to New York, At almost any time during the past thirty years, a family of five could have gone from continental Europe unaided to the United States for £20 ($97.32), while it would have cost at least £80 ($389.28) to come from Europe to Australia. Then a European family with means just sufficient to land in Sydney could have gone, for the amount spent in reaching Sydney, to the United States with capital enough to take a piece of land and begin its development independently. The tendency was, of course, to settle the country with a small wealthy class and a more numerous poor class, who were aided in landing in the new country, while the valuable great middle class or the many with small means went to the United States. From 1882 until 1886, this country increased more by immigration than at any other time in its history, unless for a brief time in the gold-hunting days, there having come in those four years 271,146 persons, while in 1882 alone no less than 789,000 emigrated to the United States. In fifteen years—say from 1878 to 1892—there came to Australasia, a country as large as the United States, 600,000 persons, while during the same period 6,000,000 persons emigrated to the United States, and, as before remarked, persons of a different class, there being a smaller percentage of the rich classes and a smaller percentage of the poorer class, but a larger percentage of those having moderate means for beginning life in a new country.

We can see the result of these influences in the disproportion of the rural to the city and town population. New South Wales has a population of 1,193,000, of which 411,000 people live in Sydney. In Newcastle, 50,000 more live, and one-half of the whole live in nine cities and towns. Victoria has a population of 1,167,000—490,896 living in Melbourne alone and more than one-half in four cities, to wit: Melbourne, 490,896; Ballarat, 46,033; Bendigo, 37,238; and Geelong, 24,283; a total of 598,450. Queensland has 421,297 people, and Brisbane, the capital, has 100,000 of them. South Australia has 393,718 people, of whom 133,252 live in her capital—Adelaide—and the other colonies vary but little in this respect. The results are that in most of the districts there is a small number of very rich and powerful land and stock owners, a large yet too small number of independent farmers who live by their own toil, and an abnormally large number of absolute dependents. In the cities, there are the same results from the same causes—a few enormously rich, a larger class of business men with moderate means, and an enormously disproportionate number of the very poor and destitute.

In many ways, the condition of this country has no precedent or parallel in the history of colonization, and, as the mental traits of a people must ever develop in harmony with the physical environments, unusual events should surprise no one. The germ of every startling phase of the memorable financial climax was warmed into life by the social and political conditions of the country.

The social system, with the help of the great distance, checked the flow of people to this country, while the influence of a powerful class and the actual profit in the dominant industries—mining and grazing—accelerated the flow of capital. Given such a combination of coincident causes—immigration retarded, the development of rural industries discouraged by the land system, with vast sums of money being thrown on the loan market—and inflation, extravagance, and speculation, ending in a crisis, when overstrained relations between labor and capital demanded a readjustment, inevitably follow.

Then, owing to a lack of population to use the inflowing capital in productive industry and of opportunity for immigrants to settle on or to occupy and cultivate the soil and improve the pastures, the money, if not diverted from legitimate industry, sought other channels of usefulness, because the doors to legitimate development were partially closed. The new capital came because profits in the dominant industries had been enormously high, because vast fortunes had been made in the rapid growth of other countries, and because here was a continent which was unoccupied to tempt the cupidity of the ambitious and the adventurous.

But, as I have said, while money and energy may create things, desire only creates values, and the intensity of desire for things depends upon the number of people wanting them. The people here, the moneyed and business classes, as well as the governments, forgot that the real strength of a country is in its brain and its brawn and the true wealth of a country in its productive energy, so they started out to develop a new country by means of old ideas. The moving spirits imported their notions of social progress with their money. They had grown up in a densely populated country, where wealth and labor are abundant, and they failed to realize that here even more enormous wealth than Britain ever dreamed of awaited the magic touch of industry and the needs of consumers. They forgot that there is no wealth where there are none to desire.

People for years had been coming moderately fast, but the money was coming faster, so it became a custom to bank on the future. Stations were bought at high prices, the sellers moving to the cities; factories were built, and a series of city booms gradually grew proportionately with the inflated ideas of the people. Loan agencies, building societies, mortgage and trust companies, and every scheme conceivable were invented to create desires for growth and development. But the money still came faster than the people, and houses were built before there were people to give them value by wanting them. Cities were growing everywhere. The growth of Melbourne has no parallel in the United States, except Chicago. Sydney arose like a dream, and in all portions of the country the excitement of creation went on. Men built houses, but the weeds grew on the doorsteps and the walks were silent. Men built, but men entered not in. Land was bought at fabulous prices, streets were paved and not used. Great rows of business blocks and pretty cottages await those who still long and struggle on the opposite side of the globe. In Melbourne, I am told, there are twenty thousand empty houses; in Sydney, five thousand to seven thousand. The houses are facts; they are now paid for by somebody, and silently stand as monuments to enterprising folly. It is safe to say that there is property that cost fully £20,000,000 ($97,320,000) in the two cities that is now unproductive and waiting to have the element of real value attached to it by the presence of people who are either not in this country or, worse, not able to occupy it; for it must be remembered that want or desire to create value must be coupled with financial ability to satisfy the want.

Had it been possible to purchase the good lands in Victoria and New South Wales for the same price as in the United States and to get to this country as cheaply, and this £20,000,000 ($97,320,000) had been invested in agricultural or pastoral pursuits, it would have created productive industries sufficient to support more than half a million people, and would have yielded a handsome profit over the current interest rate charged in the London loan market. Thousands of persons were employed, not in producing goods or things with a market in every country, but in creating new houses and other things, which, it was hoped, would have a market "inside of ninety days." In this abnormal development, rival investments led to inflation and speculation, and the high profit and high wage limit led to extravagance, with all the attendant evils. What must have been the result? The bursting of the bubble, that readjustment might come.

Consider the influences which must have deeply impressed themselves upon most of the people; a new and unoccupied continent with fabulous possibilities; a genial, though enervating, climate; no real claim to nationality, save the vague term "Anglo-Saxon;" a freedom rivaling true democracies, but with little participation or responsibilities in governmental affairs; subjects of a monarchy 12,000 miles away; with the natural resources of the country largely monopolized and nearly 80 per cent of the adult population on the wage list; with one-half of the alienated lands held by less than one sixteen-hundredth part of the people, and a large majority of the total population living in the great cities; with the governments the chief employers and the laborer made the ward of the nation, together with a sad and visible lack of self-reliance everywhere, and no student should be surprised at many things which excite the wonder of strangers visiting Australasia.

These conditions acccount, in a large measure, for the great pleasure of all classes in an unreasonable number of holidays; for 1,500 race horses being in constant training in Sydney; for 20,000 people attending a cricket match or 100,000 a horse race, where almost everybody, even girls of tender age, bet on "sweepstakes," especially at the "Melbourne Cup;" for the delirium that pushed speculation to the heights of ruin which culminated in the crisis of 1893, as well as the people's ready acquiescence in the reconstruction measures.

Early in 1893, all the conditions were ripe for a change to more practical methods. Improvements, public and private, as well as enterprise and speculation, had progressed on a scale which would have been justified had there been no checks to the occupancy of the lands and had a desirable class of immigrants been flowing in proportionately with the new capital. Speculation had ceased some months before; business was growing more dull; strikes in the labor centers had attracted the public attention; the almost universal stringency that pervaded the business world aroused a feeling of fear and anxiety; there were no inviting investments and no place for money but on deposit; the banks were strong and lent, as before, with lavish hand and were struggling to rescue the declining trade of the country from threatened ruin. With an energy and courage worthy of the highest praise, the banks strove to stem the ebbing tide and to keep the forces of production in operation. They lent millions on stations and other property, though the mortgages of record were not proper security for the sums advanced. It was a custom of graziers to go to the banks and ask aid to bridge over the season. In these loans, the graziers provided for contingencies. They often contracted for a contingent of £10,000 ($48,660), taking but £2,000 ($9,732) and paying interest on that amount. The records show the contingent amount, so the inquirer was often misled. In spite of the most strenuous efforts, the dangers thickened until the strain became too great for the public strength. The banks were more than generous—they desired to aid, instead of destroying, those who enriched them. In extreme cases only, were mortgages foreclosed, and but a small percentage of the properties that stood to the credit of the banks on the records belonged to the banks in fact or were overloaded with advances. It is true the banks lent on "inflated" values, but events have already proved that, as a rule, loans were well secured though the borrower had not been oppressed. The banks had not sustained or backed the speculative land booms or the inflated building societies, and, as Sir George Dibbs says, that was one reason for the collapse of many of those concerns.

The following table, taken from Mr. Osbiston's article in the Journal of the Institute of Bankers, with his comments, is sufficient answer to the charge so often made that the banks had weakened their position by overadvances and by recklessly decreasing their reserves. The report is given for nine quarters, the last issued but a few days before the first door was closed—April 15, 1893.

Months.	Notes.	Deposits.	Cash.	Advances.
1891.				
March	£1,745,933	£35,414,410	£5,776,095	£42,277,025
June	1,696,103	35,241,015	5,605,203	42,741,977
September	1,642,309	35,074,042	5,333,098	44,077,426
December	1,673,425	35,659,690	4,795,835	45,011,118
1892.				
March	1,611,672	36,698,091	5,011,729	44,252,527
June	1,592,145	36,039,543	5,165,616	44,182,848
September	1,496,354	35,655,110	5,502,910	44,451,108
December	1,439,871	35,564,192	5,313,265	44,135,728
1893.				
March	1,423,893	35,994,353	5,868,010	42,577,269

> **It will thus be seen that, while the notes and advances show a contraction, the deposits and cash exhibit a substantial expansion, all indicative of a prudent handling of banking resources. The amount of cash held against deposits and notes, in short, was in March, 1893, 3*s*. 1¾*d*. (75¼ cents) in £1 (4.86\frac{6}{10}$), as against 2*s*. 10½*d*. (69 cents) in December, 1892, and but 2*s*. 7¾*d*. (63¼ cents) in March, 1892. The position thus disclosed, on the whole, an unimpaired public confidence, yet on the part of the banks a certain but ill-defined foreshadowing of the coming storm.**

The banks were strong, but the business structure, having been erected upon a wrong foundation, had proven defective and began to topple over as soon as the wavering moral support was withdrawn.

With business built upon such a basis, development forced into artificial channels, and industrial depression drifting more and more into idleness and discontent, the tension became so great that a spark only was needed to start the conflagration. With the public mind in such a state, it is hard to determine what word, what whisper, what fear or influence started the rush on the banks; but, once started, the panic became general, for the conditions were ripe from many years' growth. Probably a contributing cause was a fear that the British depositors would get the start of local ones and leave the ruined banks in the hands of the people of the colonies. The crisis was but the climax of an abnormally developed business and governmental system, and Australasia, as a country, can never enjoy that measure of wealth, influence, and prosperity commensurate with her natural resources and vast superficial area without a radical change in her industrial system.

But the crisis has passed, business is gradually assuming normal proportions and conditions, the banks were never stronger, the public have more money than any other people of like numbers on earth; the mines yield £6,250,000 ($30,375,000) gold per year, £14,000,000 ($68,124,000) in silver and silver lead, £2,250,000 ($10,948,500) worth of coal, several millions in copper and other ores and minerals; the sheep still carry £25,000,000 ($121,650,000) worth of wool per clip, sugar production is increasing, the dairy products are reaching the markets of the world, and the people have learned a lesson.

Now is the time for Americans to cultivate these markets, for soon, under the new order of things, Australasia will again become one of the most progressive and, comparatively, one of the greatest commercial countries on the globe, though the social and political conditions forbid rapid growth, either in material development or in population.

Nowhere in my investigations have I ever seen evidence of finer business capacity than among the business class of Australasia, and nowhere have I seen a deeper love for the credit and honor of government than among the people of these colonies. Of course, they have passed through a blighting financial storm that crushed many hopes, wrecked many fortunes, and reduced to poverty many comfortable households; but, if the sad memories were expunged and the facts only contemplated, few people are less financially embarrassed than they, and, as governments, notwithstanding the enormous liabilities, I know of none which stand on a more satisfactory financial basis.

Of course, general business has not rallied from the late depression, labor is not properly employed, trade still languishes, commerce is but slowly reviving, and there are yet vague whispers of further financial troubles; but these evils time will cure, for they come not from lack of capital or enterprise, but from lack of symmetry in social and industrial development, and the prevailing calm is but the silent work of readjustment.

GEO. W. BELL,
Consul.

SYDNEY, *March, 1894.*

AMERICAN TRADE WITH BRITISH INDIA.

INDIA'S AGRICULTURE.

British India is agricultural to a far greater extent than most thickly populated countries. Seventy-five per cent of the 300,000,000 inhabitants derive their living from the cultivation of the land. A large portion of the remaining 25 per cent are in Government and domestic service. The average scale of living is low, laborers are cheap, and what they consume must be correspondingly so. There is, consequently, but little prospect of the United States finding an extensive market among them for their agricultural and raw products, but for manufactured articles of a cheap kind, India offers a large and steadily increasing market.

The results of security from internal wars, guarantied by the English Government, the killing out of dangerous beasts, and the mitigation of the ravages of famine are being seen very plainly in the increased producing and consuming power of the population.

GENERAL IMPORTS.

The average annual value of the imports of merchandise, for each five years from 1835, was as follows:

Years.	Value.	Years.	Value.
	*Rupees.**		*Rupees.**
1835-'39	49,706,180	1865-'69	316,969,580
1840-'44	76,914,280	1870-'74	330,365,880
1845-'49	91,361,260	1875-'79	383,638,360
1850-'54	110,585,380	1880-'84	501,542,410
1855-'59	155,773,920	1885-'89	615,162,730
1860-'64	239,714,520		

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*In 1874, the first year in which Treasury valuations of foreign coins were published, the rupee was worth 45.8 cents. The average annual valuations during the following quinquennials were: 1875-'79, 43.6 cents; 1880-'84, 38.49 cents; 1885-'89, 34.38 cents. In 1892-'93, the value was 38.4 cents, while Consul-General Polk gives its value at the date of writing his report (May 2, 1894) at 26 cents.

In 1892–'93, the value of the imports amounted to the sum of 662,652,773 rupees ($172,289,721), and consisted of the following articles:

Articles.	Value
	Rupees.
Apparel (including haberdashery, millinery, and boots and shoes, but excluding hosiery)	13,838,299
Coal	11,414,503
Cotton goods, including twist and yarn	256,258,649
Drugs, medicines, and narcotics	6,628,149
Glass	6,708,043
Grain and pulse	1,223,588
Liquors	14,472,633
Machinery and millwork	23,591,027
Metals, including hardware and cutlery	65,997,717
Oils	29,191,624
Paper and pasteboard	4,360,982
Provisions	18,620,546
Railway plant and rolling stock	10,329,390
Salt	5,766,942
Silk, raw and manufactures	28,176,509
Spices	6,236,331
Sugar, refined and unrefined	26,256,828
Umbrellas	4,411,447
Woolen goods	15,232,426
Other articles	77,334,670
Total	626,050,303
Government stores	36,602,470
Grand total	*662,652,773

*$172,289,721.

IMPORTS OF COTTON AND COTTON GOODS.

The very large imports of cottons consisted of the following quantities and values, with the countries whence imported:

Imports of cotton goods.

Description.		Quantity.	Value.
Raw cotton.			*Rupees.*
United Kingdom	cwts	19,869	375,998
Italy	do	....	3
Abyssinia	do	63	1,260
Zanzibar	do	72	1,122
Egypt	do	28,548	867,593
Aden	do	962	26,853
Arabia	do	6,009	94,848
Ceylon	do	375	4,029
China	do	1,845	87,897
Mehran and Sonmiani	do	4,107	33,889
Persia	do	14,819	1,101,871
Turkey in Asia	do	803	22,831
Total	do	7,177,472	2,618,194
Twist and yarn.			
United Kingdom	pounds	37,337,449	26,064,818
Austria	do	505,500	449,304
Belgium	do	221,800	164,156
France	do	4,315	3,010
Germany	do	19,600	16,730
Holland	do	47,640	39,938
Italy	do	16,500	14,230
Abyssinia	do	200	100
Zanzibar	do	400	250
Aden	do	7,995	4,833
Arabia	do	3,689	1,565
Ceylon	do	44,372	26,925

Imports of cotton goods—Continued.

Description.	Quantity.	Value.
Twist and yarn—Continued.		*Rupees.*
China...pounds...	985	574
Mehran and Sonmiani...do......	1,932	555
Persia...do......	2,800	2,200
Straits Settlements...do......	59,768	48,396
Turkey in Asia...do......	1,600	912
Total...do......	38,276,545	26,838,496
Piece goods.		
Gray (unbleached):		
United Kingdom...yards...	1,090,163,919	121,262,635
Austria...do......	41,599	30,324
Belgium...do......	1,520	470
Holland...do......	8,000	1,795
Zanzibar...do......	81,580	9,566
Madagascar...do......	8,400	525
United States...do......	1,659,050	349,555
Aden...do......	148,006	29,924
Arabia...do......	23,043	3,054
Ceylon...do......	427,785	76,248
China...do......	120	16
Java...do......	40	8
Mehran and Sonmiani...do......	918	105
Persia...do......	4,676	604
Straits Settlements...do......	15,584	2,474
Total...do......	1,092,584,240	121,767,303
White (bleached):		
United Kingdom...do......	374,115,211	47,977,851
Austria...do......	874,527	311,691
Belgium...do......	43,883	9,877
France...do......	83,429	29,830
Germany...do......	9,722	3,893
Holland...do......	134,364	34,020
Italy...do......	117,725	41,003
Aden...do......	4,434	719
Arabia...do......	19,545	2,706
Ceylon...do......	52,872	21,448
China...do......	810	214
Mehran and Sonmiani...do......	1,600	255
Persia...do......	1,650	228
Straits Settlements...do......	897,079	209,344
Turkey in Asia...do......	1,950	525
Total...do......	376,358,801	48,643,604
Colored, printed, or dyed:		
United Kingdom...do......	328,779,302	49,240,753
Austria...do......	1,995,685	803,990
Belgium...do......	681,846	157,155
France...do......	1,232,786	566,901
Germany...do......	590,851	316,520
Holland...do......	2,943,267	905,066
Italy...do......	1,241,173	400,005
Spain (Gibraltar)...do......	240	40
Abyssinia...do......	225	20
Zanzibar...do......	21,205	3,983
Egypt...do......	1,461	339
Mauritius...do......	6,793	698
Aden...do......	75,519	7,593
Arabia...do......	78,434	39,884
Ceylon...do......	166,336	51,176

Imports of cotton goods—Continued.

Description.	Quantity.	Value.
Piece goods—Continued.		
Colored, printed, or dyed—Continued.		*Rupees.*
China (Hongkong) .... yards	9,824	4,015
Japan .... do	10,608	2,756
Mehran and Sonmiani .... do	2,140	370
Persia .... do	22,394	5,326
Siam .... do	1,300	300
Straits Settlements .... do	1,240,561	446,615
Turkey in Asia .... do	9,203	1,633
Total .... do	339,111,153	52,955,141
Handkerchiefs and shawls.		
In the piece:		
United Kingdom .... number	15,133,795	1,503,736
Austria .... do	216,693	89,973
Belgium .... do	2,984	668
France .... do	65,960	6,507
Germany .... do	30,932	36,773
Holland .... do	4,280	1,204
Italy .... do	16,320	1,860
Arabia .... do	1,800	400
Ceylon .... do	17,446	3,302
China (Hongkong) .... do	996	187
Persia .... do	1,464	525
Straits Settlements .... do	7,932	7,079
Turkey in Asia .... do	828	538
Total .... do	15,501,430	1,652,752
Other sorts:		
United Kingdom .... yards	277,278	122,321
Germany .... do	1,250	750
Ceylon .... do	6,972	1,627
Sumatra .... do	900	125
Total .... do	286,400	124,823
Lace and patent net.		
United Kingdom .... yards	1,740,797	445,113
Austria .... do	108,229	62,705
Belgium .... do	356	474
France .... do	29,100	16,654
Ceylon .... do	200	100
China (Hongkong) .... do	2,866	269
Total .... do	1,881,548	525,315
Hosiery, pure and mixed.		
United Kingdom		708,016
Austria		192,508
Belgium		3,338
France		5,679
Germany		116,551
Holland		10
Italy		46,466
Spain (excluding Gibraltar)		2,075
Aden		319
Ceylon		33,894
China (Hongkong)		57
Persia		22
Straits Settlements		555
Total		1,109,490

Imports of cotton goods—Continued.

Description.	Quantity.	Value.
Thread, sewing.		
United Kingdom......pounds...	898,433	1,550,201
Austria......do......	25,849	29,332
Belgium......do......	14,245	20,509
France......do......	62	210
Germany......do......	23,920	30,933
Italy......do......	4,762	7,266
United States......do......	600	805
Ceylon......do......	1,802	775
China......do......	1,000	750
Persia......do......	250	290
Straits Settlements......do......	1,799	2,741
Turkey in Asia......do.....	240	240
Total......do......	972,962	1,644,052
Canvas.		
United Kingdom......yards...	48,090	17,821
Belgium......do......	2,646	578
Germany......do......	18,813	3,737
Ceylon......do.	240	120
Persia......do......	400	180
Straits Settlements......do......	532	337
Total...... do......	70,721	22,773
All other.		
United Kingdom......pounds...	1,253,300	818,491
Austria......do......	12,019	13,602
Belgium......do......	28,108	23,873
France......do......	1,977	659
Germany......do......	42,970	25,279
Holland......do......	213,366	89,739
United States......do......	54	60
Aden......do......	224	60
Ceylon ......do......	3,441	1,014
China ......do......	840	100
Persia......do......	9	12
Straits Settlements......do......	3,362	2,011
Total......do......	1,559,670	974,900

NOTE BY THE DEPARTMENT.—The total value of the imports of cotton and cotton goods, as given in the above table by classes, reduced to American money at the rate of 26 cents to the rupee, was as follows:

Raw cotton......	$680,730
Manufactures:	
Twist and yarn......	6,978,009
Piece goods:	
Gray, unbleached......	31,662,173
White, bleached......	12,647,337
Colored, printed, or dyed......	13,768,337
Handkerchiefs......	429,715
Handkerchiefs not in the piece......	32,454
Lace or patent net......	136,582
Hosiery, pure and mixed......	287,467
Sewing thread......	427,453
Canvas......	4,765
All other......	253,474
Total manufactures......	66,627,766

Imports of cotton goods by countries.

Whence imported.	Value.	Whence imported.	Value.
	Rupees.		*Rupees.*
United Kingdom	223,646,938	Aden	38,615
Austria	1,534,125	Arabia	46,044
Belgium	316,942	Ceylon	189,707
France	626,440	China	5,608
Germany	534,436	Japan	2,756
Holland	1,031,834	Java	8
Italy	496,600	Mehran and Sonmiani	730
Spain	2,075	Persia	7,187
Gibraltar	40	Siam	300
Abyssinia	20	Straits Settlements	671,156
Zanzibar	13,549	Sumatra	125
Egypt	339	Turkey in Asia	2,936
Madagascar	525	All other	676,649
Mauritius	698	Total	256,260,649
United States	350,420		

HOW TO ENLARGE AMERICAN TRADE.

There is considerable demand for the products of perfected machinery, for boots and shoes, for patent medicines, for notions of various kinds, for umbrellas, but above all for cotton goods, which constitute the universal clothing of the people. The Government has demonstrated, by elaborate and repeated experiment, that cotton with a staple equal to the American can not be grown successfully in India. The Indian cotton is chiefly used, especially on the continent of Europe, to mix with American cotton and to cheapen the price of the manufactured article.

It certainly seems anomalous that the United States, having cheap power, the raw cotton, and a labor so intelligent in the use of machinery that the labor cost per yard of goods is less than in any other country, should yet be shut out by the manufacturers of Europe from this great market. Such few American goods as are sold in India have an excellent reputation. There are two points which chiefly prevent the increase of sales of American goods. One is that most American goods are of too high a class, and, consequently, too expensive for the people. It will be necessary for American manufacturers to investigate, and then make such goods as the market demands, noting carefully the fashions and fancies of the people and the quality of cloth which they can afford to buy. It is much less expensive to supply the people with what they want than to educate them to take what we think the proper thing. The other impediment seems to lie with the manufacturers also. I am informed by the merchants that they receive no encouragement when they propose to put American goods on this market. They say that the owners of the mills in the United States do not take any interest in securing a share of this trade; that they are informed that the manufacturers will sell to them as to anyone else on the New York market, and, if they want to sell American goods, they must buy them and export them at their own risk. Now, the merchants say that they can not afford to spend the required time and money in advertising and pushing a hitherto unknown brand of goods on this market if, when they have succeeded in getting a position for the article, any other merchant can secure the goods on the same terms and reap the benefits of their work. The consumer, buying the goods which are pressed on him by the English and other merchants and agents of manufacturers, knows nothing of American products, and therefore does not ask for them. The result, if this system be continued, is that there is no reason why the sales of American goods should not remain for an indefinite time as small as they are at present.

In order that American manufacturers may take the commanding position in the market of India to which they are entitled, they must send their own representatives out here to work up business, or they must constitute as their agents such firms as are already established here, giving them an exclusive right in certain territory to special brands, a commission on goods sold, or such other inducement as will set them to work to advertise and get the goods on the market. It certainly would seem that it would pay the new mills which have sprung up in the Southern States, and which are struggling to obtain a footing in the markets of the country, to look into this matter, even if the older and more firmly established mills, content with the trade they have, should not care to do so. They would certainly have the advantage of location and of freight. They could send directly to India, in the shape of cloth, the cotton which, starting almost from their doors in the bale, meets the consumer here as a manufactured article, after traveling all the way round by England or Germany, having paid much extra freight and for many extra handlings. As matters are, were it not for kerosene oil, the balance of trade would be even more overwhelmingly against the United States in their dealings with India than it is now. The following figures will show to what extent:

Imports from the United States.

Articles.	Quantity.	Value.
		Rupees.
Agricultural implements		2,278
Apparel (including haberdashery, millinery, boots and shoes, etc., but excluding hosiery)		19,143
Books and printed matter (including maps and charts)...cwts	178	22,913
Carriages, carts, etc. (excluding railway carriages and parts thereof)		6,181
Chemicals		10,943
Clocks and watches...number	18,127	103,601
Coal...tons	100	1,800
Cotton piece goods, gray (unbleached)...yards	1,659,050	349,555
Drugs and medicines		4,097
Tobacco:		
Unmanufactured...pounds	3,220	1,300
Manufactured...do	264,144	205,76
Glassware		25,832
Hardware and cutlery (including plated ware)		43,812
Instruments and apparatus:		
Musical		11,637
Photographic		245
Scientific, philosophic, etc		5,030

Imports from the United States—Continued.

Articles.	Quantity.	Value.
		Rupees.
Liquors ....gallons...	3,301	78,807
Machinery and millwork........	....	10,240
Oils:		
Mineral (kerosene)........gallons...	26,149,418	10,169,728
Other kinds........do......	115,212	109,674
Paints and colors........cwts...	5	523
Painters' materials........	....	657
Provisions........cwts...	130	12,184
Soap........do......	6	483
Toys and requisites for games........	....	3,776
Wood:		
Firewood........	1,996	850
Other timber........tons...	74,358	88,973
Manufactures of timber........	....	3,227
Other articles:		
Unmanufactured........	....	2,182
Manufactured........	....	42,945
Total........	....	*11,344,381

* Reduced to American money: Kerosene, $2,644,129; all other articles, $305,410; total imports from the United States, $2,949,539.

Exports to the United States.

Articles.	Quantity.	Value.
Indian products.		
Apparel (including haberdashery, millinery, boots and shoes, etc., but excluding hosiery)........	....	*Rupees.* 15,709
Arms, ammunition, etc. (excluding military accouterments)........	....	7,850
Cabinet ware and furniture........	....	82,103
Canes and rattan........cwts...	1,840	22,360
Caoutchouc (raw)........do......	1,989	255,520
Coir:		
Unmanufactured........do......	12,021	98,795
Manufactured (excluding rope)........do......	14,408	166,481
Cotton:		
Raw........do......	2	43
Manufactures........pounds...	3,663	6,004
Drugs and medicines........	....	160,901
Tobacco........pounds...	200	200
Dyeing and tanning materials:		
Cutch........cwts...	92,378	1,477,268
Indigo........do......	18,917	7,356,357
Turmeric........do......	9,016	104,678
Other sorts........do......	661	3,099
Earthenware and porcelain........	....	23,278
Rice, not in the husk........cwts...	24,043	125,664
Hardware and cutlery (including plated ware)........	....	5,386
Hides:		
Raw........cwts...	39,425	1,148,095
Do........number...	271,638	
Dressed or tanned........cwts...	29	2,400
Do........number....	400	
Skins:		
Raw........cwts...	76,122	7,383,210
Do........number...	6,987,484	
Dressed or tanned........cwts...	47,177	5,867,427
Do........number...	5,145,085	

Exports to the United States—Continued.

Articles.	Quantity.	Value.
Indian products—Continued.		*Rupees.*
Jewelry		73,975
Jute:		
Raw ... cwts	1,928,525	9,387,253
Manufactures—		
Gunny bags ... nnmber	19,213,800	2,413,439
Gunny cloth ... yards	32,754,180	2,996,481
Lac:		
Button ... cwts	3,546	207,414
Shell	37,027	2,373,284
Manures ... tons	2,637	158,767
Metals ... cwts	112	38,202
Mica (commercially called "talc") ... do	1,834	192,380
Natural curiosities		9,410
Oils:		
Essential ... gallons	1,577	24,603
Vegetable—		
Castor ... do	57,752	53,812
Cocoanut ... do	791,086	843,571
Plants, living		3,500
Provisions ... cwts	146	4,605
Rags and other materials for making paper ... do	33,329	95,228
Saltpeter ... do	116,172	1,396,901
Seeds:		
Castor ... do	33	157
Linseed ... do	17,899	134,893
Mustard ... do	2,532	20,260
Other sorts ... do	20	120
Silk:		
Raw ... pounds	8,959	66,251
Manufactures		5,994
Spices, ginger ... pounds	56,839	23,131
Stationery (excluding paper)		2,400
Tea ... pounds	49,957	28,047
Toys and requisites for games		37,353
Wood, ornamental (sandal)		68,155
Wool:		
Raw ... pounds	90,578	33,806
Manufactures		107,127
Other articles:		
Unmanufactured		8,792
Manufactured		7,741
Total		45,129,880
Foreign Merchandise.		
Apparel (including haberdashery, millinery, boots and shoes, etc., but excluding hosiery)		10,650
Books and printed matter (including maps and charts) ... cwts	24	4,510
Hardware and cutlery (including plated ware)		50,090
Instruments and apparatus		300
Metals ... cwts	37,100	75,800
Provisions ... do	237	1,868
Other articles:		
Unmanufactured		275
Manufactured		5,035
Total foreign		148,528
Grand total		*45,278,308

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* Exports to the United States reduced to American money: Indian products, 11,733,769; foreign products, $38,617; total, $11,772,386.

The exports to the United States are about thirty-seven times the value of the imports therefrom, excluding kerosene oil.

BUSINESS DEPRESSION.

The above remarks apply to the Indian trade under ordinary circumstances. At the present time, the trade is suffering very severely from the fluctuations in exchange, arising from the variations in the gold value of silver, complicated by the tightness in the money market, caused by the endeavor of the Government of India to force up the gold value of the silver rupee—the only money of the country—by closing the mints to private coinage. This is only a temporary condition of affairs, but it is of paramount importance at present. While it lasts, it would be unadvisable for anyone to attempt to introduce new goods or open up new lines. Business of every kind is stagnant and enterprise at a discount, and it will be so until affairs have adjusted themselves to the new conditions—until it is permanently settled that gold will be the standard or bimetallism is readopted.

The rupee at the current rate of exchange is now worth about 26 cents.

V. L. POLK,
Consul-General.

CALCUTTA, *May 2, 1894.*

ADULTERATION OF ESSENTIAL OILS.*

That the consumers of essential oils are not the only persons interested in putting a stop to their adulteration, is evidenced by the fact that last week, in the Italian Chamber of Deputies, Signori Boselli and Fulci (the latter representing Messina) made strenuous efforts to have an almost prohibitory duty put upon French turpentine. They claim that the use made of this article is almost solely to blame for the depression that now prevails in Sicily. The adulterant, it is contended, takes the place of just so much essence, and each pound of turpentine used deprives the Sicilian peasant of the sale of 1,000 of the fruit.

The man who is shrewd enough to foist upon his customers adulterated goods is equally shrewd in covering his tracks, and he takes care not to import the turpentine in his own name. Very little French turpentine is imported directly into Messina, the greater portion entering Italy at Genoa in small lots consigned to different individuals. The duty paid there, it immediately takes the name of olive oil for machinery purposes or some other fluid and is shipped to Messina, but not addressed to the manufacturer of essences. Upon three barrels imported last week, for instance, the addressee was the porter of one of the largest essence-exporters in the city. There is but one firm in Messina that is known to deal in turpentine ("citronina canforina") and other adulterants. But, while many of the shippers here undoubtedly adulterate to a greater or less degree, all the manipulation, it is claimed, does not occur in Messina. If the walls of the cellars of some of the importers in the United States (say the shippers) could talk, they would tell a marvelous tale.

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*A former report by Consul Caughy on the same subject was printed in CONSULAR REPORTS No. 164, p. 78.

A gentleman who, I am sure, ships as pure essence as leaves Messina, avers that a New York importer, who buys thousands of coppers from him every year, advertises and sells essence at a lower figure than he pays for it. There is but one solution to this mystery, and that is that for every copper of pure essence two of adulterated are bought. I asked him why he did not protest, and his reply was that he could not afford to lose a good customer.

Such practices can be stopped by several methods, one of which is for the druggists, etc., to refuse to buy except upon analysis, and to see that the seal of the Messina chemist is intact.

The expense of said analysis will be merely nominal, the importer paying no more for analyzing five hundred jars of essence of the same quality than for one. Duly certified copies of the certificate can be made before any notary and attached to each jar. I do not, for one moment, suppose that the importer will accept this ultimatum without a great deal of persuasion. A manufacturer here a short time ago notified his London agents that hereafter he would sell all his essences by analysis. By return mail, he received a letter stating that, if he insisted upon that course, they would be compelled to buy their essences elsewhere.

The method I have above suggested should, without doubt, be effectual; but, of course, it requires unanimity of action upon the part of the purchasers. But, granting that all other precautions fail, governmental interference in the interest of pure food might be invoked. If a small duty were imposed upon refined oil of turpentine, which is now on the free list,* with the condition that, in order that essences be entered into American ports free of duty, they should be accompanied by a reliable certificate of purity (to be paid for by the shipper), the purchaser buying in original package would have protection against adulteration.

After reading this report, the importer or druggist may say: "But why the necessity of all this talk about adulteration? There is no need of any essence manufacturer attempting to sell us adulterated goods now, since we can immediately detect it by our polariscope." So the shippers of impure essence in Messina thought for some time, but now they rejoice that it is not true.

I personally experimented with one of these instruments for two weeks, and was soon convinced of its inaccuracy; but my opinion being that of a layman, it would bear no weight, so I submitted the results of my investigation to Mr. Moore, the English analytical chemist. I append his reply:

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*I make this statement upon the authority of paragraph 743, act of October, 1890, but it might be held that refined oil of turpentine should pay an ad valorem duty of 25 per cent, according to paragraph 76 of the same act, as it is by no means crude essence of turpentine, but, on the contrary, refined to the highest possible degree.

MESSINA, *June 12, 1894.*

C. CAUGHY, Esq.,
U. S. Consul.

DEAR SIR: In reference to your inquiry, in which you speak of the polarimeter and such like instruments as being largely used for the detection of turpentine in essences, we would state that it is a fact that the polarimeter is so used; but we shall prove, however, that it is useless for this purpose. Pure essence of lemon gives an optical rotation varying from +57° to +64°, according to the districts in which the lemons are grown, the low-lying districts giving the lower rotation. Five per cent of turpentine added to a pure essence lowers the rotation 4½°; therefore, a pure essence showing the rotation of 64° will allow of an adulteration of 7.5 per cent of turpentine, and still show the proper rotation of pure essence, viz, 57°. Then, again, by judiciously mixing essence of orange and turpentine and adding to the essence of lemon one can obtain the exact rotation of the pure essence. You are aware, perhaps, that in the making of concentrated essential oils there are by-products containing the terpenes, and these are also used in the adulteration of essences possessing, as they do, the odor of the oils from which they are derived. The optical rotation of the liquid derived from the making of concentrated lemon gives nearly the same figure as genuine essence, and that from the orange gives a high rotation, so that, by adding turpentine to the orange product and using it as an adulterant for essence of lemon, one again obtains the genuine figure for pure essence. When mixed with the genuine essence, it does not seem to sensibly alter the smell, and very few abroad would be able to notice much difference, even up to 50 per cent of adulteration, from that of pure essence.

The samples we have prepared in your presence are as follows:

(1) Pure essence of lemon,* specially made.

(2) Essence of lemon with 50 per cent of adulteration, made with turpentine and the orange product, and showing the optical rotation of pure essence.

(3) Essence of lemon with 25 per cent of adulteration, made with turpentine and genuine essence of orange, showing optical rotation of pure essence.

(4) Turpentine, called "citronina," used in these adulterations..

(5) Orange product from making concentrated oil, used in the above-mentioned adulterations of 50 per cent.

We only speak of essence of lemon here; but all the essential oils can be adulterated in the same manner, but not, perhaps, with the same materials used for lemon.

We are, yours faithfully,

G. H. OGSTON & MOORE.

Mr. Moore's statements can be very readily verified by any competent chemist with the samples of turpentine ("citronina"), orange product, and pure lemon which accompany this report.† Let him take, for example, the 50 per cent adulteration, of which the proportions are 50 per cent pure lemon essence, 40 per cent orange product, and 10 per cent turpentine (citronina), tested, of course, as any chemist will know, at 15° Celsius.

That the polarimeter may be of the greatest assistance to the honest manufacturer in discovering the optical rotation of his own product, no one can deny, and it is of benefit to him alone. There its usefulness ceases. Beyond that, it is more than useless; it is a delusion and a snare. This statement, I am sure, will be borne out by any chemist after testing the samples sent.

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* I would state that the lemon mentioned by Mr. Moore, which is used in the adulterations, was expressed under my personal supervision, and never left my possession.—C. M. C.

† Samples sent to the Department of Agriculture.

Polarization, optical rotation, polariscopes, polarimeters, refractometers, etc., are high-sounding names, meaning very little unless their results are thoroughly confirmed by the crucial test—chemical analysis.

CHAS. M. CAUGHY,
Consul.

MESSINA, *June 15, 1894.*

ANALYSIS OF ESSENTIAL OILS.

As many of the shippers of essential oils are inclined to cast discredit upon the accuracy of chemical analysis, I decided to obtain a convincing test, and, to that end, I addressed the following letter to Messrs. Ferd. Baller & Co., a well-known firm of Messina:

MESSINA, *June 26, 1894.*

Messrs. FERD. BALLER & CO.,
Messina.

GENTLEMEN: Having declared that you would be only too willing to coöperate with me in an effort to verify the assertion that chemical analysis is amply competent to detect the use of adulterants in essential oils, I would request that you furnish me with several vials, the proportion of adulteration in them being only known to you. To insure an honest test, beyond all peradventure, you are at liberty to encompass the investigation with any safeguards that you may desire, for it is to our mutual interest that it be conducted in all sincerity.

I am confident that the result will be satisfactory, and that if there be any difference between your figures and those of Mr. Moore's analysis, that difference will not exceed 1, or, at the utmost, 2 per cent. If my anticipations are realized in his report, I feel sure you will concede that what the essence-adulterator has claimed to be impossible has at last been achieved.

I am, etc.,
CHAS. M. CAUGHY,
U. S. Consul.

On June 26 I received the following reply:

MESSINA, *June 26, 1894.*

CHAS. M. CAUGHY, Esq.,
U. S. Consul, Messina.

DEAR SIR: By the bearer we hand you four sealed samples, marked Nos. 1, 2, 3, and 4, of oil of lemon, for the purpose of testing by Messrs. Ogston & Moore, as agreed. We also inclose sealed envelope containing a memorandum of the qualities of the above samples, which envelope is to be opened in our presence, after you have the chemists' certificates of test, in order that you may jointly verify the exactness of their test.

We are, etc.,
FERD. BALLER & CO.

That afternoon I submitted the samples to Mr. Moore, and the next morning I received his report, which I append:

MESSINA, *June 27, 1894.*

CHAS. M. CAUGHY, Esq.,
U. S. Consul, Messina.

DEAR SIR: We have analyzed the four samples of essence of lemon that we received from you, marked "No. 1, F. B. & Co.," "No. 2, F. B. & Co.," "No. 3, F. B. & Co.," "No. 4, F. B. & Co." Each bottle was sealed "F. B. & Co." We find the following results: No. 1 contains 84 per cent of pure essence; No. 2, 90 per cent of pure essence; No. 3, 100 per cent of pure essence; and No. 4, 95 per cent of pure essence.

We remain, etc.,
G. H. OGSTON & MOORE.

This I submitted to Ferd. Baller & Co., and was present when the envelope was opened. Their reply was as follows:

MESSINA, *June 28, 1894.*

CHAS. M. CAUGHY, Esq.,
U. S. Consul, Messina.

DEAR SIR: In reply to your letter of this date, we are pleased to say that Messrs. Ogston & Moore's analysis of the four samples of oil of lemon sent to you confirms the proportions of adulteration contained in said samples.

The paper in the sealed envelope, opened in your presence, contained the following statement: "No. 1, 15 per cent adulteration; No. 2, 10 per cent adulteration; No. 3, pure; No. 4, 5 per cent adulteration."

We are, etc., FERD. BALLER & CO.

Messrs. W. Sanderson & Sons have also tested the accuracy of analysis several times, with what result is shown by the following letter:

MESSINA, *June 30, 1894.*

CHAS. M. CAUGHY, Esq.,
U. S. Consul, Messina.

DEAR SIR: In conformity with your desire to have our opinion concerning the correctness of Messrs. Ogston & Moore's analyses of oil of lemon, we beg to state that, from the several tests we have put them to on different occasions by submitting to them samples expressly prepared by us for the purpose, we have come to the conclusion that the result of their analyses is all that is required, and that we fully expected the satisfactory result of the trial of their analyses lately made with the samples you asked us for.

We remain, etc., W. SANDERSON & SON.

One adulterator of oils has acknowledged to me that if our merchants unite upon analysis, those who continue to adulterate might as well close their warehouses. As for himself, he says, he will in the future make nothing but pure essences for the United States, and if they want it they must pay the price; but so far as other countries are concerned, he will still continue to furnish the adulterations until checked.

In the course of these reports, I have endeavored, to the best of my ability, to treat the subject in all its various phases. My first article contained no expression of opinion on my part. I simply reproduced my questions and the essence-shippers' replies. In my second article, I explained the uselessness of the polarimeter and other similar instruments, supporting my assertions with tests, and suggested that the only way to secure pure essence was by analysis; and, knowing that those whose products would not stand the searching eye of chemistry would be the first to decry its ability to give to the world the secrets of their mixing rooms, I have in this article anticipated their criticism by submitting the above correspondence.

All the information I could gain, either by personal research or by practical experiment, I have embodied in these articles.

With this information in his possession, the American merchant ought in the future to be able to secure pure essences if he is willing to pay the price for them.

CHAS. M. CAUGHY,
Consul.

MESSINA, *July 8, 1894.*
No. 168——6.

GERMAN IMPORTS AND EXPORTS.

According to the Statistical Year Book, just issued from the Imperial Department of Statistics, the foreign trade of Germany was as follows for the year 1893: Total imports, 4,134,000,000 marks ($983,915,800); total exports, 3,244,600,000 marks ($772,214,800). In the foregoing, are included the imports of gold and silver, 172,000,000 marks ($40,936,000), and the exports of gold and silver, 153,000,000 marks ($36,414,000), thus leaving for merchandise: Imports, 3,962,100,000 marks ($942,979,800); exports, 3,091,600,000 marks ($735,800,800).

Imports of grain.

Grain.	1893.	1892.
	Marks.	*Marks.*
Barley	96,300,000	72,900,000
Wheat	88,900,000	199,200,000
Indian corn	68,900,000	75,900,000
Oats	30,000,000	9,900,000
Rye	23,600,000	88,900,000
Total	307,700,000	446,800,000

It will thus be seen that the imports of the various kinds of grain in 1893 were 139,000,000 marks ($33,082,000) less than in 1892. This was due to the good crops of the latter year.

The imports of wheat and rye in 1893, as compared with 1892, decreased by about 1,000,000 tons, as follows: Imports of wheat in 1893, 703,453 metric tons, a decrease of 592,760 tons; imports of rye in 1893, 224,262 tons, a decrease of 324,337 tons.

PRINCIPAL EXPORTS.

Sugar stands at the head of German exports for 1893, the amount exported being valued at 221,800,000 marks ($52,788,400), 6.8 per cent of the total exports. Next follow textile goods: Woolen articles to the value of 218,000,000 marks ($51,884,000), or 6.7 per cent; cotton articles, 154,300,000 marks ($36,723,400), or 4.8 per cent; silk articles, 152,600,000 marks ($36,318,800), or 4.7 per cent; linen goods, 18,000,000 marks ($4,284,000); woolen and cotton yarns, 56,000,000 marks ($13,328,000).

GENERAL IMPORTS.

The imports of raw wool amounted to 230,000,000 marks ($54,740,000); raw cotton, 210,000,000 marks ($49,980,000); flax, 39,000,000 marks ($9,282,000); hemp, 23,000,000 marks ($5,474,000); raw silk, 127,000,000 marks ($30,226,000); whereas only 70,000,000 marks ($16,660,000) of these raw materials were exported, showing clearly that 560,000,000 marks

($133,280,000) were sent to foreign countries to secure the necessary raw materials for manufacturing textiles.

IMPORTS AND DUTIES.

The revenue yielded by the tariff duties levied, as compared respectively with the value of dutiable imports and of total imports, was as follows:.

Year.	Dutiable imports.	Total imports.	Revenue from tariff duties.
	Marks.	*Marks.*	*Marks.*
1890	2,267,000,000	4,145,500,000	395,400,000
1891	2,290,000,000	4,150,800,000	394,000,000
1892	2,242,800,000	4,018,500,000	393,000,000
1893	2,117,900,000	3,961,800,000	356,300,000

The value of food products imported amounted to—

Year.	Imports.	Revenue from tariff duties.
	Marks.	*Marks.*
1890	1,392,200,000	294,600,000
1891	1,503,000,000	296,800,000
1892	1,482,200,000	294,300,000
1893	1,328,400,000	254,100,000

This last table demonstrates the fact that, in 1893, the German people had to pay 40,000,000 marks less in duties on food products than in the previous year (1892).

Of raw materials for industrial purposes only pig iron, wood for building and fuel, blackboard, and roofing slate are dutiable. The revenue derived from the duties levied upon these articles in the years 1891, 1892, and 1893, amounted to 15,200,000 marks ($3,617,600), 15,000,000 marks ($3,570,000), and 14,800,000 marks ($3,522,400), respectively.

On dutiable food products, manufactured articles, and the raw materials just named, the average duties levied are, respectively, 19.4, 14, and 8.8 per cent.

LOUIS STERN,
Commercial Agent.

BAMBERG, *June 14, 1894.*

EXPORTS DECLARED FOR THE UNITED STATES.

On January 20, 1894, the following circular was addressed to the consular officers of the United States in the several countries:

> The statements showing the character and value of declared exports have in the past been sent to the Department (Digest of Invoice Book) every quarter by consular officers. Sometimes those of unusual interest have been published in the CONSULAR REPORTS (declared export returns). The statements covering the entire year have always found a place

in the annual volume known as Commercial Relations. The Department, considering it unnecessary for consular officers to transmit reports which were not regularly used, abolished by circular of September 19, 1893, the quarterly return of exports (form 117).

As, however, the journal—CONSULAR REPORTS—has a large circulation among the commercial classes and trade papers, it is considered advisable to publish in it every quarter consolidated statements of the exports from Canada, from Mexico, and from the various countries in Europe to the United States. Information of this character is not valuable if obtained in piecemeal. The statistics should speak for an entire country.

With a view of supplying this information, in compact form, the Department has decided that the consuls-general in Canada, in Mexico, and in the various countries of Europe shall transmit as soon as possible after the end of each quarter, beginning with the June quarter, 1894, consolidated statements, prepared in accordance with the form which accompanies this circular, showing the exports to the United States declared in their respective districts and in the consular districts subordinate to them.

In order that each consul-general may promptly prepare and transmit this consolidated statement, it will be necessary for each consul under his supervision to forward to the consul-general, at the end of each quarter, a statement showing the exports from his own consular district.

It is hoped that these statements will be received with such regularity and completeness that the Department may be justified in announcing beforehand the monthly number of the CONSULAR REPORTS in which they will appear. This journal is the vehicle of communication between consular officers and the business public of this country, and it is expected that its contributors will do all in their power to strengthen it, and nothing to weaken it.

* * * * * * *

The following statements, showing the exports declared at the several consulates-general and the consulates thereunder, for the quarter ending June 30, 1894, are in answer to the foregoing circular.

AUSTRIA-HUNGARY.

Exports to United States during June quarter.

Articles.	Budapest.	Prague.	Reichenberg.	Trieste.	Vienna.	Total.
Albumen					$1,293.12	$1,293.12
Amber					887.55	887.55
Antiquities					1,920.00	1,920.00
Art, works of		$1,021.09			2,218.36	3,239.45
Artificial flowers		620.91	$360.79			981.70
Baskets and basket ware	$222.49				6,384.26	6,606.75
Beans and lentils	100,431.47	90,719.89		$7,379.24	23,374.97	221,905.57
Bed feathers		27,588.63				27,588.63
Beer		27,933.20				27,933.20
Beet-root sugar		166,677.73				166,677.73
Black lead		3,209.27				3,209.27
Books and papers	683.92	1,178.66			1,302.34	3,164.92
Brushes					1,537.87	1,537.87
Buttons		5,562.37	7,259.42		3,729.48	16,551.27
Carbon lights					6,076.16	6,076.16
Carlsbad Sprudel salt		8,327.26				8,327.26
Cloth and woolen goods		2,110.16	439.14		12,819.02	15,368.32
Coffee				23,509.58		23,509.58
Cotton goods		248.11			22,325.17	22,573.28
Cutlery			1,511.72			1,511.72

Exports to United States during June quarter—Continued.

Articles.	Budapest.	Prague.	Reichenberg.	Trieste.	Vienna.	Total.
Cuttle bones	$320.74			$1,222.90		$1,543.64
Drugs and chemicals		$3,615.15		2,937.37	$5,055.30	11,607.82
Fans					14,173.22	14,173.22
Felt					2,572.64	2,572.64
Fruits (dried, etc.)	17,210.52			24,288.34		41,498.86
Furniture	1,933.03	1,308.94			5,401.75	8,643.72
Glassware	3,786.35	39,454.20	$75,763.25		20,653.88	139,657.68
Gloves		315.49			9,297.48	9,612.97
Gum and glue		3,147.71		19,343.13		22,490.84
Hair, human		9,674.56				9,674.56
Hats and caps					860.56	860.56
Herbs, roots, and leaves	5,633.17			3,196.29		8,829.46
Insect powder and flowers				16,784.80		16,784.80
Jewelry and precious stones		533.22	46,220.83			46,754.05
Leather goods					7,480.94	7,480.94
Linen goods		5,096.03	45,293.48		40,045.16	90,434.67
Magnesite					1,165.59	1,165.59
Matches					1,226.01	1,226.01
Meerschaum crude					6,975.27	6,975.27
Metal ware		2,018.20	173.39		18,381.68	20,573.27
Mineral water	21,176.89	983.58				22,160.47
Musical instruments		3,984.92			780.38	4,765.50
Oils, paints, and colors	736.00			4,877.88		5,613.88
Ozocerite and ceresin					4,050.63	4,050.63
Paper goods		8,832.53			1,471.00	10,303.53
Pearl blanks		6,385.25			76,932.11	83,317.36
Porcelain and pottery	122.16	94,105.71	9,679.57		3,441.22	107,348.66
Potash		11,964.08				11,964.08
Pulp	582.57	6,404.15			647.32	7,634.04
Scientific instruments					573.73	573.73
Seeds	2,224.01	4,945.08		3,412.41		10,581.50
Shell and bone ware					11,287.23	11,287.23
Shoes and boots					1,593.55	1,593.55
Silks and velvets			620.14		43,171.90	43,792.04
Skeletons		818.45				818.45
Skins and leather		540.59		42,143.41	18,718.15	61,402.15
Smokers' articles					14,325.15	14,325.15
Sparterie			1,066.41			1,066.41
Sponges				3,128.46		3,128.46
Stained glass					2,372.46	2,372.46
Stationery		259.34			508.21	767.55
Toys		3,197.73	244.65			3,442.38
Umbrella fixtures and sticks	2,229.39				21,363.87	23,593.26
Wax figures					411.20	411.20
White lead				4,075.18		4,075.18
Wines and liquors	9,494.66	386.33		81.19	2,157.80	12,119.98
Wooden ware		595.42	218.72	577.31	1,833.75	3,225.20
Miscellaneous	808.74	1,014.31	3,158.54	196.77	4,020.91	9,199.27
Total	167,596.11	544,778.25	192,010.05	157,154.26	426,818.35	1,488,357.02
Total same quarter, 1893.	129,894.30	934,748.64	461,752.49	120,713.33	758,197.72	2,405,306.48
Increase	37,701.81			36,440.93		
Decrease		389,970.39	269,742.44		331,379.37	916,949.46

DEAN B. MASON,
Vice-Consul-General.

VIENNA, *July 11, 1894.*

BELGIUM.

Exports to United States during June quarter.

Articles.	Antwerp.	Brussels.	Ghent.	Liege.	Total.
Albumen			$252.74		$252.74
Aniline colors		$2,657.17			2,657.17
Arsenic				$3,326.55	3,326.55
Asphalt	$1,571.61				1,571.61
Bagging	1,147.12				1,147.12
Beans	7,996.13				7,996.13
Bleaching powders	24,856.79				24,856.79
Braids and button stock		1,439.69			1,439.69
Braids (hat beads) and jet on wire		5,510.96			5,510.96
Bricks (fire)		2,920.80			2,920.80
Card clothing				125.64	125.64
Cement	108,291.18	149,557.83	12,404.84		270,253.85
Chicory	6,250.07		2,859.25		9,109.32
Chicory root	1,175.61		43,294.09		44,469.70
Church regalia and ornaments	634.48	370.75			1,005.23
Coal and coal bricks		8,513.06			8,513.06
Coffee	12,299.26				12,299.26
Cordage			448.59		448.59
Corsets		65,059.12			65,059.12
Diamonds	62,544.91				62,544.91
Earthenware		1,375.27			1,375.27
Fancy goods				300.48	300.48
Firearms				64,788.59	64,788.59
Fur, refuse of		2,625.96			2,625.96
Furniture	1,315.17	176.69			1,491.86
Gin	595.01				595.01
Glass:					
Plate		117,888.54			117,888.54
Window		193,789.70			193,789.70
Other		708.15			708.15
Glassware				25,424.90	25,424.90
Gloves		21,183.95			21,183.95
Glue and glue stock		262.59			262.59
Glycerine	3,654.06				3,654.06
Granite		98.33			98.33
Grease	323.77				323.77
Hair	2,708.68				2,708.68
Harness		142.41			142.41
Hats		472.58			472.58
Hatters' fur		13,712,65	8,562.56		22,275.21
Hones				1,726.00	1,726.00
Household goods and personal effects	2,305.76			1,061.50	3,367.26
India rubber	1,651.72				1,651.72
Indigo				3,750.42	3,750.42
Ivory	7,226.09				7,226.09
Lace goods		1,932.32	5,516.51		7,448.83
Leather		1,692.68			1,692.68
Lamp burners				356.28	356.28
Linen goods		33,809.85			53,809.85
Linoleum	7,831.22				7,831.22
Machinery		1,533.73			1,533.73
Marble		4,792.76			4,792.76
Marble and granite (soda-water fountains)		803.75			803.75
Matches	1,085.62				1,085.62
Meat (extract)	36,333.13				36,333.13
Medicinal plants		572.25			572.25
Musical instruments		317.20			317.20

Exports to United States during June quarter—Continued.

Articles.	Antwerp.	Brussels.	Ghent.	Liege.	Total.
Naphthalene		$3,167.55			$3,167.55
Oil	$2,278.08		$144.26		2,422.34
Oil paintings		68.23			68.23
Paper and books	11,632.72	5,615.93		$2,483.35	19,732.00
Pease	2,748.85				2,748.85
Pheasants	730.08				730.08
Phosphates	8,397.51	3,020.37			11,417.88
Photographers' supplies			99.51		99.51
Plants			17,024.16		17,024.16
Potash	6,290.04				6,290.04
Potatoes	390.66			7,185.39	7,576.05
Potters' clay				123.94	123.94
Rags and paper stock		2,084.59	67,204.05		69,2 8.64
Rope (old manilla)	727.70				727.70
Skins (rabbit, sheep, and other)		27,133.43	30,470.74		57,614.17
Soda	1,906.19				1,906.19
Soda, prussiate of		9,057.64			9,057.64
Stones (paving)		2,996.66			2,996.66
Straw goods				732.82	732.82
Sugar (beet)	3,570.37				3,570.37
Tar	880.60				880.60
Tiles (encaustic)		214.94			214.94
Tobacco	1,694.50				1,694.50
Vegetable fibers (flax, hemp, and tow)	6,687.07	4,515.99	22,019.95		33,223.01
Vegetables, preserved		212.49			212.49
Wheels				28.95	28.95
Willows	530.72				530.72
Wine	909.68	82.22			991.90
Woolen goods				55,978.42	55,978.42
Yarns, crochet cotton			1,457.46		1,457.46
Zinc				10,386.23	10,386.23
Sundries	3,876.81	9,327.52	16,030.56	832.67	30,067.56
Total	345,048.97	721,418.30	227,789.27	178,612.13	1,472,868.67
Total for same quarter in 1893	394,828.07	1,214,169,29	232,563.29	478,122.41	2,319,683.06
Decrease	49,779.10	492,750.99	4,774.02	299,510.28	846,814.39

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *July 17, 1894.*

CANADA.

Exports to United States from maritime provinces and Newfoundland during June quarter.

CHARLOTTETOWN, P. E. I.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$30,607.66	Hair (horse)	$168.93
Animals (horses)	2,435.00	Seats	400.42
Blueberries	1,646.25	Sundries	9.18
Eggs	457.14		
Emigrants' effects	714.30	Total	108,808.77
Fish (canned)	69,086.06	Total for same quarter in 1893	210,113.91
Fur, hides, and skins	3,283.83	Decrease	101,305.14

Exports to United States from maritime provinces and Newfoundland, etc.—Continued.

HALIFAX, N. S.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$2,471.78	Fur, hides, and skins	$2,929.38
Animals (horses)	545.00	Goods returned to United States	627.45
Cotton waste	342.42	Junk	2,077.48
Emigrants' effects	1,463.00	Laths and lumber	15,366.90
Fish:		Molasses	1,588.17
Canned	58,478.76	Sundries	398.50
Dry	34,181.40		
Fresh	21,630.23	Total	150,305.10
Oil	2,728.90	Total for same quarter in 1893	156,024.74
Pick	5,475.73	Decrease	5,719.64

MONCTON, N. B.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$11,397.83	Plaster:	
Animals (horses)	432.50	Calcined	$1,927.30
Clay	1,022.50	Chips	1,942.69
Cotton waste	314.00	Land rock	2,125.77
Emigrants' effects	1,575.50	Rock	15,195.80
Fish:		Wood (fire and pulp)	15,178.81
Canned	17,204.00		
Fresh	1,512.50	Total	152,519.08
Fur, hides, and skins	100.00	Total for same quarter in 1893	188,546.56
Laths and lumber	82,589.88	Decrease	36,027.48

PICTOU, N. S.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$930.92	Hair (plastering)	$935.53
Animals (horses)	213.50	Laths and lumber	1,480.80
Coal	50,451.00	Plaster of Paris	2,078.40
Emigrants' effects	366.50	Stone for building	1,440.50
Fish:		Sundries	67.20
Canned	46,505.70		
Fresh	12,322.40	Total	119,886.95
Pick	2,806.50	Total for same quarter in 1893	106,211.61
Fur, hides, and skins	202.00	Increase	13,675.34
Goods returned to United States	86.00		

ST. JOHN, N. B.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$19,872.70	Minerals:	
Animals (horses)	695.50	Cement	$158.50
Bark	4,500.00	Granite	1,968.50
Coal tar	600.98	Lime	18,489.79
Emigrants' effects	240.50	Paris green	1,476.00
Fish:		Salt	2,299.23
Fresh	16,650.63	Starch	8,800.00
Oil	63.00	Sumac for dyeing	852.50
Pick	7,289.75	Sundries	473.50
Fur, hides, and skins	1,235.85	Tea	50.18
Glue	184.75	Vehicles of all kinds	208.50
Hair (horse)	32.25	Wine	185.50
Junk	247.50		
Laths and lumber	376,049.24	Total	463,130.21
Molasses	252.50	Total for same quarter in 1893	623,117.91
Paper stock	212.86	Decrease	159,987.70

Exports to United States from maritime provinces and Newfoundland, etc.—Continued.

ST. JOHN'S N. F.

Articles.	Value.	Articles.	Value.
Bones	$611.50	Junk	$79.60
Emigrants' effects	165.00	Paper stock	154.20
Fish:		Sulphate of iron	16,125.00
Canned	48.50		
Dry	3,367.50	Total	27,442.80
Oil	6,196.25	Total for same quarter in 1893	58,403.42
Pick	695.25	Decrease	30,960.62

ST. STEPHEN, N. B.

Articles.	Value.	Articles.	Value.
Agricultural products:		Minerals (Paris green)	$261.00
Beans	$627.00	Molasses	6,600.00
Potatoes	3,161.30	Soda, bicarbonate of	112.00
Animals (horses)	386.00	Sundries	392.52
Coal	5,041.79	Tea	270.00
Emigrants' effects	2,586.75	Vehicles of all kinds	113.00
Fish (dry)	189.00		
Fur, hides, and skins	87.00	Total	32,821.36
Goods returned to the United States	365.00	Total for same quarter in 1893	41,029.92
Harness	46.00	Decrease	8,208.56
Laths and lumber	12,583.00		

WINDSOR, N. S.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$5,948.00	Paper stock	$1,603.00
Animals (horses)	265.00	Plaster:	
Coal	26,489.00	Calcined	23.00
Cotton waste	404.00	Paris	29,909.00
Emigrants' effects	375.00	Wood (fire and pulp)	4,333.00
Goods returned to United States	23.00		
Grindstones	1,980.00	Total	120,872.00
Gum, spruce	50.00	Total for same quarter in 1893	100,942.00
Laths and lumber	49,470.00	Increase	19,930.00

WOODSTOCK, N. B.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$5,062.10	Sundries	$290.00
Animals (horses)	1,234.00		
Bark	8,394.00	Total	38,965.28
Emigrants' effects	770.50	Total for same quarter in 1893	29,650.83
Laths and lumber	23,214.68	Increase	9,314.45

YARMOUTH, N. S.

Articles.	Value.	Articles.	Value.
Agricultural products (potatoes)	$9,687.10	Laths and lumber	$31,482.92
Animals (horses)	633.00	Leather belting	303.00
Bark	403.00	Minerals (cement)	452.50
Cotton waste	499.70	Paper stock	182.50
Eggs	71.00	Sundries	2.00
Emigrants' effects	500.50	Tents and tent poles	375.72
Fish:		Wood (fire and pulp)	16,638.00
Canned	21,339.50	Total	143,788.10
Fresh	59,409.16	Total for same quarter in 1893	262,922.30
Pick	971.50		
Funnel from wreck	827.00	Decrease	119,134.20
Junk	10.00		

Exports to United States from maritime provinces and Newfoundland, etc.—Continued.

SUMMARY.

Articles.	Value.	Articles.	Value.
Agricultural products:		Minerals:	
Beans	$627.00	Cement	$611.00
Potatoes	89,139.39	Clay	1,022.50
Animals (horses)	6,839.50	Granite	1,968.50
Bark	13,297.00	Lime	18,489.79
Blueberries	1,646.25	Paris green	1,737.00
Bones	611.50	Plaster—	
Coal	81,981.79	Calcined	1,950..30
Coal tar	600.98	Chips	1,942.69
Cotton waste	1,560.12	Land rock	2,125.77
Eggs	528.14	Rock	15,195.80
Emigrants' effects	8,757.55	Paris	31,981.40
Fish:		Paper stock	2,152.56
Canned	212,662.52	Salt	2,299.23
Dry	37,737.90	Seats	400.47
Fresh	111,524.92	Soda, bicarbonate of	112.00
Oil	8,988.15	Starch	8,800.00
Pick	17,238.73	Stone for building	1,440.50
Funnel from wreck	827.00	Sulphate of iron	16,125.00
Fur, hides, and skins	7,838.06	Sumac for dyeing	852.50
Glue	184.75	Sundries	1,632.90
Goods returned to United States	1,101.45	Tea	360.18
Grindstones	1,980.00	Tents and tent poles	375.72
Gum, spruce	50.00	Vehicles of all kinds	321.50
Hair:		Wine	185.50
Horse	201.18	Wood (fire and pulp)	36,149.81
Plastering	935.53	Total	1,358,539.65
Harness	46.00	Total for same quarter in 1893	1,776,963.20
Junk	2,414.58		
Laths and lumber	592,237.42	Decrease	418,423.55
Leather belting	303.00		
Molasses	8,440.67		

DARIUS H. INGRAHAM,
Consul-General.

HALIFAX, *July 30, 1894.*

Exports to United States from the province of Ontario for June quarter.

AMHERSTBURG.

Articles.	Value.
Lumber	$930.09
Shooks, staves, etc	16,793.86
Wood (cord)	120.00
Total	17,843.95
Total for same quarter in 1893	17,764.18
Increase	79.77

Exports to United States from the province of Ontario for June quarter—Continued.

BELLEVILLE.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$320.00	Pickets and palings	$2,611.06
Barley	3,188.80	Poles (hop and telegraph)	840.25
Beans	787.00	Returned United States products	35.00
Charcoal	4,410.70	Shooks, staves, headings, and bolts	2,065.00
Emigrants' effects	6,917.50	Ties (railway)	4,268.60
Grain (oats, rye, wheat, and buckwheat)	5,412.60	Wood (pulp)	2,393.00
Hay and straw	18,027.50	All other articles	8,479.37
Hides, skins, and furs	12,078.49	Total	249,052.80
Horses	150.00	Total for same quarter in 1893	437,132.29
Lath and shingles	20,343.51		
Lumber	155,914.72	Decrease	188,079.49
Pease (whole and split)	809.70		

BROCKVILLE.

Articles.	Value.	Articles.	Value.
Emigrants' effects	$2,130.00	Wood (pulp)	$648.00
Hides, skins, and furs	20,616.50	All other articles	926.00
Horses	2,195.00	Total	46,531.24
Lath and shingles	2,405.93	Total for same quarter in 1893	94,078.63
Lumber	17,504.81		
Returned United States products	105.00	Decrease	47,547.39

CHATHAM.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$1,150.00	Returned United States products	$135.00
Beans	100,682.65	Shooks, staves, headings, and bolts	53,497.95
Emigrants' effects	2,725.00	All other articles	1,071.00
Hides, skins, and furs	3,417.85	Total	175,815.92
Horses	250.00	Total for same quarter in 1893	108,790.09
Logs and timber	12,057.50		
Lumber	828.97	Increase	67,025.83

CLIFTON.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$2,550.00	Wood (pulp)	$10,825.52
Emigrants' effects	7,091.00	All other articles	1,138.15
Horses	260.00	Total	30,595.49
Nursery stock	5,064.22	Total for same quarter in 1893	21,255.52
Potatoes	3,296.60		
Pulp	235.00	Increase	9,339.97
Seeds	135.00		

COLLINGWOOD.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$115.00	Poles (hop and telegraph)	$843.30
Emigrants' effects	4,489.00	Potatoes	6,056.30
Fish (fresh and salted)	42,357.80	All other articles	110.00
Hay and straw	229.48	Total	133,777.98
Hides, skins, and furs	425.65	Total for same quarter in 1893	329,820.51
Lath and shingles	29,995.96		
Lumber	46,181.49	Decrease	196,042.53
Pease (whole and split)	2,974.00		

Exports to United States from the province of Ontario for June quarter—Continued.

FORT ERIE.

Articles.	Value.	Articles.	Value.
Beans	$110.00	Seeds	$732.00
Fish (fresh and salted)	751.00	Shooks, staves, headings, and bolts	1,535.00
Grain (oats, rye, wheat, and buckwheat)	305.00	Total	12,126.00
Horses	2,672.00	Total for same quarter in 1893	18,879.00
Logs and timber	635.00	Decrease	6,753.00
Lumber	3,580.00		
Potatoes	1,806.00		

GODERICH.

Animals for breeding purposes	$1,000.00	Pulp	$200.60
Emigrants' effects	692.00	All other articles	688.70
Fish (fresh and salted)	8,425.21	Total	24,011.61
Flax	8,659.00	Total for same quarter in 1893	35,022.00
Horses	2,250.00	Decrease	11,010.39
Lumber	354.00		
Potatoes	1,742.10		

GUELPH.

Animals for breeding purposes	$237.50	All other articles	$1,382.30
Emigrants' effects	6,354.50	Total	25,099.42
Flax	2,208.14	Total for same quarter in 1893	42,224.90
Hogs	8,310.00	Decrease	17,124.48
Potatoes	6,606.98		

HAMILTON.

Animals for breeding purposes	$1,000.00	Returned United States products	$17,702.10
Beans	154.00	Seeds	258.94
Emigrants' effects	24,900.00	Wool	4,249.60
Fertilizers	691.69	All other articles	14,465.43
Hides, skins, and furs	13,300.81	Total	106,935.65
Horses	2,683.00	Total for same quarter in 1893	322,767.61
Laths and shingles	3,015.01	Decrease	215,831.96
Lumber	21,384.43		
Potatoes	3,130.64		

KINGSTON.

Emigrants' effects	$6,323.00	Mica (crude and cut)	$805.00
Fish (fresh and salted)	385.57	Returned United States products	100.00
Grain (oats, rye, wheat, and buckwheat)	7,409.87	Wood (pulp)	3,200.00
Hay and straw	10,658.00	All other articles	3,310.82
Hides, skins, and furs	15,279.79	Total	67,344.30
Horses	790.00	Total for same quarter in 1893	99,605.75
Laths and shingles	5,230.25	Decrease	32,261.45
Lumber	13,852.00		

Exports to United States from the province of Ontario for June quarter—Continued.

LONDON.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$750.00	Lumber	$312.50
Apples (evaporated and green)	1,765.00	Potatoes	195.00
Emigrants' effects	10,017.00	Returned United States products	55.57
Fertilizers	1,064.82	All other articles	8,058.35
Flax	11,365.30		
Hay and straw	357.00	Total	57,447.85
Hides, skins, and furs	11,232.81	Total for same quarter in 1893	62.031.99
Horses	10,524.50	Decrease	4,584.14
Jewelers' sweepings	1,750.00		

MORRISBURG.

Emigrants' effects	$3,464.50	All other articles	$337.89
Hides, skins, and furs	2,492,44	Total	8,219,86
Horses	1,683.00	Total for same quarter in 1893	23,431.05
Lumber	208.43		
Mica (crude and cut)	33.60	Decrease	15,211.19

ORILLIA.

Bark	$1,968.00	Poles (hop and telegraph)	$307.10
Emigrants' effects	1,244.50	Potatoes	180.00
Hides, skins, and furs	6,416.34	Total	621,720.85
Lath and shingles	29,609.14	Total for same quarter in 1893	585,510.24
Logs and timber	359,269.60		
Lumber	222,726.17	Increase	36,210.61

OTTAWA.

Bark	$1,344.00	Pease (whole and split)	$352.50
Emigrants' effects	9,638.50	Phosphate	3,850.00
Fertilizers	368.78	Pickets and palings	2,744.46
Hay and straw	392.00	Pulp	34,102.59
Hides, skins, and furs	4,480.90	Returned United States products	1,746.50
Lath and shingles	20,072.74	All other articles	2,436.69
Logs and timber	260.52		
Lumber	634,756.04	Total	742,558.03
In bond for export	22,354.88	Total for same quarter in 1893	878,739.01
Mica (crude and cut)	3,656.93	Decrease	136,180.98

PALMERSTON.

Emigrants' effects	$2,068.35	Potatoes	$510.00
Fish (fresh and salted)	35,576.08	All other articles	53.00
Flax	4,421.86	Total	47,599.74
Horses	1,757.00	Total for same quarter in 1893	79,283.81
Lumber	2,702.70		
Pease (whole and split)	366.00	Decrease	31,684.07
Poles (hop and telegraph)	144.75		

PORT HOPE.

Apples (evaporated and green)	$3,156.88	Potatoes	$1,730.05
Emigrants' effects	3,050.00	Returned United States products	1,370.91
Grain (oats, rye, wheat, and buckwheat)	4,510.00	All other articles	491.00
Hides, skins, and furs	9,448.00	Total	35,570.24
Horses	3,226.50	Total for same quarter in 1893	133,561.52
Lumber	2,776.40		
Pease (whole and split)	5,810.50	Decrease	97,991.28

Exports to United States from the province of Ontario for June quarter—Continued.

PORT ROWAN.

Articles.	Value.
Emigrants' effects	$5,465.00
Horses	2,015.00
Lumber	1,457.60
Potatoes	810.00
All other articles	1,005.45
Total	10,753.05
Total for same quarter in 1893	27,134.06
Decrease	16,381.01

PORT SARNIA.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$49.00	Lumber	$349.48
Emigrants' effects	4,100.00	Shooks, staves, headings, and bolts	4,681.44
Flax	2,420.00	All other articles	1,995.88
Grain (oats, rye, wheat, and buckwheat)	18,171.20		
Hay and straw	600.00	Total	48,260.85
Hides, skins, and furs	2,474.60	Total for same quarter in 1893	65,997.37
Horses	13,030.00	Decrease	17,737.52
Logs and timber	389.25		

PORT STANLEY AND ST. THOMAS.

Articles.	Value.	Articles.	Value.
Beans	$8,373.10	Shooks, staves, headings, and bolts	$31,882.59
Emigrants' effects	4,627.00	Wood (cord)	242.50
Flax	4,810.35	All other articles	3,234.88
Hides, skins, and furs	4,950.00		
Horses	1,045.00	Total	65,543.86
Logs and timber	3,958.24	Total for same quarter in 1893	89,423.07
Lumber	1,616.50	Decrease	23,879,21
Potatoes	803.70		

PRESCOTT.

Articles.	Value.	Articles.	Value.
Emigrants' effects	$1,140.00	Poles (hop and telegraph)	$603.60
Fulminate of mercury	19,982.68	Potatoes	1,171.95
Grain (oats, rye, wheat, and buckwheat)	293.40	All other articles	749.00
Hides, skins, and furs	3,098.00		
Horses	595.00	Total	211,055.40
Lumber	371.85	Total for same quarter in 1893	168,459.27
Nickel matte	183,049.92	Increase	42,596,13

SAULT ST. MARIE.

Articles.	Value.	Articles.	Value.
Emigrants' effects	$226.00	Returned United States products	$430.00
Fish (fresh and salted)	9,844.89	Wood (pulp)	18,000.00
Horses	1,975.00	All other articles	400.00
Lath and shingles	3,043.23		
Logs and timber	557,128.80	Total	725,907.15
Lumber	134,604.23	Total for same quarter in 1893	349,367.13
Potatoes	255.00	Increase	376,540.02

Exports to United States from the province of Ontario for June quarter—Continued.

STRATFORD.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$100.00	Potatoes	$757.00
Emigrants' effects	2,553.00	All other articles	826.00
Fish (fresh and salted)	43,646.14	Total	50,391.64
Hay and straw	982.00	Total for same quarter in 1893	52.399.67
Horses	1,070.00		
Lumber	457.50	Decrease	2,008.03

TORONTO.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$140,00	Lath and shingles	$208.46
Apples (evaporated and green)	3,346.63	Lumber	24,673.38
Barley	55,372.40	Pease (whole and split)	11,990.42
Buffings	3,004.00	Potatoes	12,865.89
Chemical products	12,097.18	Seeds	248.74
Coins and bullion	2,400.00	Whisky	2,123.50
Diamonds	17,458.81	All other articles	9,726.26
Emigrants' effects	51,625.00	Total	241,869.72
Fertilizers	7,625.07	Total for same quarter in 1893	364,197.90
Hides, skins, and furs	12,873.26		
Horses	12,506.50	Decrease	122,328.18
Jewelers' sweepings	1,584.22		

WALLACEBURG.

Articles.	Value.
Emigrants' effects	$850.00
Logs and timber	14,805.00
Shooks, staves, headings, and bolts	38,934.91
Wood (cord)	4,660.25
Total	59,250.16
Total for same quarter in 1893	101,543.81
Decrease	42,293.65

WINDSOR.

Articles.	Value.	Articles.	Value.
Beans	$105,386.70	Shooks, staves, headings, and bolts	$3,641.66
Charcoal	325.00	Whisky	27,015.02
Emigrants' effects	4,768.00	Wood (cord)	352.50
Hides, skins, and furs	272.50	All other articles	2,690.60
Horses	8,728.00		
Logs and timber	32,954.60	Total	197,867.96
Lumber	2,483.60	Total for same quarter in 1893	196,482.87
Poles (hop and telegraph)	9,249.78	Increase	1,385.09

Exports to United States from the province of Ontario for June quarter—Continued.

SUMMARY.

Articles.	Value.	Articles.	Value.
Animals for breeding purposes	$7,411.50	Lumber (in bond for export)	$22,354.88
Apples (evaporated and green)	8,268.51	Mica (crude and cut)	4,495.53
Bark	3,312.00	Nickel matte	183,049.92
Barley	58,561.20	Nursery stock	5,064.22
Beans	215,493.45	Pease (whole and split)	22,303.12
Buffings	3,004.00	Phosphate	3,850.00
Charcoal	4,735.70	Pickets and palings	5,355.52
Chemical products	12,097.18	Poles (hop and telegraph)	11,988.78
Coins and bullion	2,400.00	Potatoes	41,917.21
Diamonds	17,458.81	Pulp	34,538.19
Emigrants' effects	166,458.85	Returned United States products	21,680.08
Fertilizers	9,750.36	Seeds	1,374.68
Fish (fresh and salted)	140,986.69	Shooks, staves, headings, and bolts	153,032.41
Flax	33,884.65	Ties (railway)	4,268.60
Fulminate of mercury	19,982.68	Whisky	29,138.52
Grain (oats, rye, wheat, and buckwheat)	36,102.07	Wood:	
Hay and straw	31,245.98	Cord	5,375.25
Hides, skins, and furs	122,857.74	Pulp	35,066.52
Hogs	8,310.00	Wool	4,249.60
Horses	69,405.50	All other articles	63,576.77
Jewelers' sweepings	3,334.22		
Lath and shingles	113,924.23	Total	4,013,150.72
Logs and timber	981,458.51	Total for same quarter in 1893	4,704,903.25
Lumber	1,290,026.89	Decrease	691,752.53

JOHN B. RILEY,
Consul-General.

OTTAWA, *August 15, 1894.*

Exports to United States from the province of Quebec during June quarter.

COATICOOK.

Articles.	Value.	Articles.	Value.
Animals:		Vegetables:	
Breeding	$5,000.00	Pease	$20.00
Horses	5,933.00	Potatoes	1,810.00
Articles returned to United States	8,708.00	Wood and manufactures of:	
Chemicals, drugs, etc	105.00	Lumber	6,693.00
Calfskins	4,853.00	Railway ties	1,153.00
Household and personal effects	5,095.00	Logs	37,224.00
Stone	342.00	All other	125.00
Sugar	3,503.00	Total	72,818.00
Sundries	102.00		
Tea	152.00		

GASPÉ BASIN.

Fish (fresh)	$699.76	Wood and manufactures of (lumber)	$1,463.00
Furs (raw)	181.40	Total	2,354.16
Sundries	10.00		

Exports to United States from the province of Quebec during June quarter—Continued.

MONTREAL.

Articles.	Value.	Articles.	Value.
Animals (horses)	$19,136.00	Hay	$104.47
Articles returned to United States	18,336.01	Hides and skins:	
Antiquities	1,666.00	Calfskins	13,923.95
Bark (hemlock)	130.00	Goatskins	5,610.50
Books	445.86	Sheepskins	267.00
Chemicals, drugs, dyes, etc.:		Household and personal effects	32,550.50
Ashes, pot	1,101.13	Iron and steel	250.00
Bone black	5,024.46	Jewelry sweeps	800.00
Coal tar	1,066.17	Junk	5,024.30
Drugs	2,551.40	Medals and coin	5,000.00
Dyes	2,000.25	Paintings	13,218.50
Gas liquor	2,787.75	Paper stock	7,577.43
Pitch	275.02	Platinum	294.95
Powder—		Spirits, distilled:	
Medicated	820.97	Brandy	5,340.15
Washing	610.80	Gin	432.50
Soda (caustic)	17.20	All other	296.26
Sirup of turpentine	320.00	Sugar	1,745.60
All other	526.00	Sundries	2,524.21
Cartridges	2,882.49	Tobacco (leaf)	38,845.24
Coal	31,582.99	Tea	23,441.36
Clays and mineral substances:		Vegetables:	
Apatite (ground)	510.00	Beans	578.78
Asbestos	2,146.08	Potatoes	665.00
Cement	3,323.00	Wood and manufactures of:	
Fertilizers	3,241.02	Lumber	77,761.48
Fruits (lemons)	122,975.07	Pulp wood	175.00
Furs:		Railway ties	3,773.25
Raw	8,145.21	Match blocks	9,452.25
Cuttings	292.00	Shingles	430.04
Dressed	1,016.00	Laths	626.70
Hair:		Total	485,854.05
Plastering	240.00		
Horse	974.75		

QUEBEC.

Articles returned to United States	$1,349.66	Sundries	$2,880.25
Chemicals, drugs, dyes, etc	2,454.50	Vegetables (potatoes)	9,366.18
Clays and mineral substances (asbestos)	23,512.00	Wood and manufactures of:	
Fish (fresh)	9,072.02	Lumber	42,615.75
Furs (raw)	988.00	Pulp wood	1,812.50
Hair (plastering)	1,740.51	Railway ties	1,803.98
Household and personal effects	4,480.85	Total	116,955.14
Sugar	14,878.94		

ST. HYACINTHE.

Animals:		Vegetables (potatoes)	$120.00
Horses	$3,216.00	Wood and manufactures of:	
Lambs	348.75	Lumber	24,588.28
Articles returned to United States	105.91	Pulp wood	580.00
Bark (hemlock)	468.00	Railway ties	7,987.84
Hay	25,348.00	Shingles	270.02
Household and personal effects	3,251.50	Total	66,356.30
Straw	72.00		

Exports to United States from the province of Quebec during June quarter—Continued.

ST. JOHN'S.

Articles.	Value.	Articles.	Value.
Animals (horses)	$13,498.00	Sundries	$61.80
Articles returned to United States	330.73	Tobacco (leaf)	624.92
Hay	23,824.75	Wood (lumber)	3,480.00
Household and personal effects	1,375.00	Total	43,566.50
Sugar	371.30		

SHERBROOKE.

Animals (horses)	$640.00	Vegetables (potatoes)	$119.00
Articles returned to United States	975.00	Wood and manufactures of:	
Chemicals (mercury, fulminate)	9,964.00	Lumber	31,958.84
Clays and mineral substances (asbestos)	30,250.00	Pulp wood	11,046.00
Hay	1,300.00	Railway ties	6,632.62
Household and personal effects	3,810.00	Shingles	954.50
Ores:		Wood pulp	2,240.65
Copper	3,692.68	Clapboards	6,843.50
Sulphur	13,394.15	All other	253.25
All other	87.90		
Sugar	609.97	Total	128,020.56
Sundries	3,248.50		

STANBRIDGE.

Animals (horses)	$2,707.00	Wood and manufactures of:	
Coal	522.89	Lumber	$63,523.00
Hay	9,522.25	Railway ties	2,187.26
Hides and skins (calfskins)	2,569.35	Shingles	279.00
Household and personal effects	1,695.00	Total	84,795.75
Sugar	1,770.00		
Sundries	20.00		

THREE RIVERS.

Animals (horses)	$1,595.00	Vegetables (potatoes)	$458.25
Clays and mineral substances (asbestos)	3,000.00	Wood and manufactures of:	
Furs (raw)	1,383.46	Lumber	54,192.07
All other	47.50	Pulp wood	24,537.00
Hay	2,130.71	Shingles	2,935.85
Household and personal effects	3,309.00	Wood pulp	9,866.97
Ores	666.30	All other	218.36
Sugar	168.00	Total	107,825.47
Sundries	230.00		

Exports to United States from the province of Quebec during June quarter—Continued.

SUMMARY.

Articles.	Value.	Articles.	Value.
Animals:		Hides and skins:	
Breeding	$5,000.00	Calfskins	$21,346.30
Horses	46,725.00	Goatskins	5,610.50
Lambs	348.75	Sheepskins	267.00
Articles returned to United States	21,805.31	Iron and steel	250.00
Antiquities	1,666.00	Jewelry sweeps	800.00
Bark (hemlock)	598.00	Junk	5,024.30
Books	445.86	Medals and coins	5,000.00
Chemicals, drugs, dyes, etc.:		Ores:	
Ashes, pot	1,101.13	Copper	3,692.68
Bone black	5,024.46	Sulphur	13,394.15
Coal tar	1,066.17	All other	754.20
Drugs	2,551.40	Paintings	13,218.50
Dyes	2,000.25	Paper stock	7,577.43
Gas liquor	2,787.75	Platinum	294.95
Mercury, fulminate	9,964.00	Spirits, distilled:	
Pitch	275.02	Brandy	5,340.15
Powder—		Gin	432.50
Medicated	820.97	All other	297.26
Washing	610.80	Straw	72.00
Soda (caustic)	17.20	Stone	342.00
Sirup of turpentine	320.00	Sugar	23,046.81
All other	3,085.50	Sundries	9,076.76
Cartridges	2,882.49	Tobacco (leaf)	39,470.16
Coal	32,105.88	Tea	23,593.36
Clays and mineral substances:		Vegetables:	
Apatite, ground	510.00	Beans	578.78
Asbestos	58,908.08	Pease	20.00
Cement	3,323.00	Potatoes	12,538.43
Fertilizers	3,241.02	Wood and manufactures of:	
Fish (fresh)	9,771.78	Lumber	306,275.42
Fruits (lemons)	122,975.07	Pulp wood	38,150.50
Furs and fur skins:		Railway ties	26,624.95
Furs—		Match blocks	9,452.25
Raw	10,698.07	Shingles	4,869.41
Cuttings	292.00	Wood pulp	12,107.62
Dressed	1,016.00	Logs	37,224.00
All other	47.50	Laths	626.70
Hair:		Clapboards	6,843.50
Plastering	1,980.51	All other	596.61
Horse	1,974.75	Total	1,108,545.93
Hay	62,230.18		
Household and personal effects	55,566.85		

WENDELL A. ANDERSON,
Consul-General.

MONTREAL, *July 10, 1894.*

GERMANY.

Exports to United States from Frankfort and dependencies during June quarter.

AIX LA CHAPELLE.

Articles.	Value	Articles.	Value.
Books, stationery, photographs, and paper ware	$27,805.79	Pins and needles	$16,179.84
Buttons and button stuffs, etc	14,889.96	Sundries	7,391.54
Dyes, drugs, chemicals, etc	27,110.84	Total	177,511.29
Glass plate, window and mirror glass	487.63	Total for same quarter in 1893	430,465.95
Linen, woolen, and cotton goods	86,365.20	Decrease	252,954.66
Mineral water	7,340.49		

BAMBERG.

Articles.	Value.
Baskets and basket ware	$40,805.57
Dyes, drugs, chemicals, etc	837.03
Hops	3,929.90
Sundries	759.14
Steel (manufactured) and Bessemer	1,472.43
Wine, brandy, beer, and liquors	3,833.20
Total	51,637.27
Total for same quarter in 1893	85,317.68
Decrease	33,680.41

BARMEN.

Articles.	Value.	Articles.	Value.
Braids, bindings and trimmings, etc	$148,001.31	Prunes, dried fruits, nuts, land produce, etc	$11,421.44
Books, stationery, photographs, and paper ware	4,118.70	Silk, silk goods, velvets, ribbons and braids, etc	339,306.54
Buttons and button stuffs, etc	6,519.55	Sundries	6,717.94
Dyes, drugs, chemicals, etc	141,377.83	Total	981,028.42
Fancy goods and toys	15,764.72	Total for same quarter in 1893	1,579,408.93
Ironware, steel, cutlery, etc	170,985.27	Decrease	598,380.51
Linen, woolen, and cotton goods	119,129.30		
Machinery	355.07		
Pins and needles	17,330.75		

COLOGNE.

Books, stationery, photographs, and paper ware	$1,833.30	Silk, silk goods, velvets, ribbons and braids, etc	$19,547.74
China, glass, porcelain, stone, and earthen ware	10,570.60	Smokers' articles, snuff, cigars, and tobacco	5,062.31
Cologne water	3,879.54	Sundries	19,673.13
Dyes, drugs, chemicals, etc	117,546.01	Steel (manufactured) and Bessemer	5,208.34
Ironware, steel, cutlery, etc	1,702.84	Wine, brandy, beer, and liquors	53,627.17
Leather, hides, and skins	17,889.82	Total	375,848.86
Mineral water	72,593.99	Total for same quarter in 1893	725,942.67
Prunes, dried fruits, nuts, land produce, etc	43,673.06	Decrease	350,093.81
Soaps and perfumery	3,041.01		

Exports to United States from Frankfort and dependencies during June quarter—Cont'd.

CREFELD.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$8,617.17	Soaps and perfumery	$1,181.40
Dyes, drugs, chemicals, etc	23,189.42	Sundries	2,151.95
Hatbands and ribbons	12,836.70	Wine, brandy, beer, and liquors	5,639.33
Linen, woolen, and cotton goods	9,357.26	Total	523,191.63
Silk, silk goods, velvets, ribbons and braids, etc	460,210.40	Total for same quarter in 1893	1,241,017.78
		Decrease	717,826.15

DUSSELDORF.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$10,017.67	Mineral water	$1,219.72
Buttons and button stuffs, etc	1,619.03	Oil and glass paintings and chromos	623.56
Caps and cartridges	5,172.34	Silk, silk goods, velvets, ribbons and braids, etc	11,408.41
China, glass, porcelain, stone, and earthen ware	8,018.52	Sundries	528.65
Dyes, drugs, chemicals, etc	34,329.66	Wine, brandy, beer, and liquors	802.41
Fancy goods and toys	862.78	Total	124,085.12
Ironware, steel, cutlery, etc	4,771.00	Total for same quarter in 1893	473,988.10
Linen, woolen, and cotton goods	2,835.52	Decrease	349,902.98
Machinery	41,875.85		

WEIMAR.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$3,435.88	Smokers' articles, snuff, cigars, and tobacco	$2,110.96
China, glass, porcelain, stone, and earthen ware	26,563.97	Sundries	5,287.32
Dyes, drugs, chemicals, etc	3,225.98	Wine, brandy, beer, and liquors	450.46
Fancy goods and toys	35,096.63	Watches, clocks, and watchmen's detectors	3,264.55
Gloves	1,393.57	Total	93,778.06
Hair, prepared and raw	2,356.87	Total for same quarter in 1893	233,032.29
Linen, woolen, and cotton goods	6,531.63	Decrease	139,254.23
Optical goods	2,818.07		
Seeds, plants, etc	1,242.17		

FRANKFORT.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$19,658.11	Machinery	$3,974.95
Buttons and button stuffs, etc	190.74	Mineral water	12,878.07
Cement	22,915.85	Music, musical strings, and instruments	517.02
Clay	17,443.94	Optical goods	4,214.80
China, glass, porcelain, stone, and earthen ware	1,821.33	Oil and glass paintings and chromos	1,085.96
Colored, photographic, and fancy paper	37,862.67	Platina wire and platinum	71,000.11
Dyes, drugs, chemicals, etc	370,248.37	Prunes, dried fruits, nuts, land produce, etc	172.50
Fancy goods and toys	3,308.77	Smokers' articles, snuff, cigars, and tobacco	818.04
Hatters' fur	6,483.30	Soaps and perfumery	3,742.55
Hair, prepared and raw	16,267.98	Sundries	3,978.31
Hares' hair	24,579.56	Wine, brandy, beer, and liquors	19,782.90
Hops	1,006.90	Wool	7,864.10
Instruments	273.48	Total	883,819.75
Ironware, steel, cutlery, etc	4,830.52	Total for same quarter in 1893	1,344,892.62
Leather, hides, and skins	218,055.74	Decrease	461,072.87
Leather goods	3,053.76		
Linen, woolen, and cotton goods	5,789.42		

Exports to United States from Frankfort and dependencies during June quarter—Continued.

FREIBURG.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$23,204.15	Sundries	$252.90
Buttons and button stuffs, etc	9,694.75	Steel (manufactured) and Bessemer	563.10
Dyes, drugs, chemicals, etc	28,370.25	Wine, brandy, beer, and liquors	68.60
Linen, woolen, and cotton goods	33,321.95	Watches, clocks, and watchmen's detectors	2,211.20
Machinery	4,299.75	Total	114,831.80
Music, musical strings, and instruments	2,027.70	Total for same quarter in 1893	119,215.15
Silk, silk goods, velvets, ribbons and braids, etc	10,817.45	Decrease	4,383.35

FÜRTH.

Bronze powder and leaf metal	$55,123.23	Optical goods	$1,996.00
Books, stationery, photographs, and paper ware	23,297.33	Prunes, dried fruits, nuts, land produce, etc	10,735.28
Dyes, drugs, chemicals, etc	1,083.00	Sundries	8,045.64
Fancy goods and toys	49,209.27	Total	417,673.07
Glass plate, window and mirror glass	261,219.17	Total for same quarter in 1893	690,947.23
Gold, silver, and metal paper	6,077.61	Decrease	273,274.16
Ironware, steel, cutlery, etc	709.22		
Leonic ware	1,777.32		

KEHL.

Books, stationery, photographs, and paper ware	$5,325.56	Silk, silk goods, velvets, ribbons and braids, etc	$14,822.74
China, glass, porcelain, stone, and earthen ware	631.90	Smokers' articles, snuff, cigars, and tobacco	592.62
Dyes, drugs, chemicals, etc	15,994.75	Sundries	1,049.86
Glass plate, window and mirror glass	17,146.86	Wine, brandy, beer, and liquors	1,933.15
Hair, prepared and raw	8,843.70	Watches, clocks, and watchmen's detectors	126.68
Instruments	516.99	Total	135,174.77
Ironware, steel, cutlery, etc	179.49	Total for same quarter in 1893	274,825.29
Leather, hides, and skins	39,548.76	Decrease	139,650.52
Linen, woolen, and cotton goods	26,915.47		
Prunes, dried fruits, nuts, land produce, etc	1,546.24		

MANNHEIM.

Articles.	Value.
Cement	$48,940.38
Dyes, drugs, chemicals, etc	577,793.28
Leather, hides, and skins	180,376.82
Sundries	34,263.93
Wine, brandy, beer, and liquors	75,070.07
Total	916,444.48
Total for same quarter in 1893	1,026,748.21
Decrease	110,303.73

Exports to United States from Frankfort and dependencies during June quarter—Continued.

MAYENCE.

Articles.	Value.	Articles.	Value.
Cement	$72,624.78	Steel (manufactured) and Bessemer	$1,661.64
Drugs, dyes, chemicals, etc	117,748.60	Wine, brandy, beer, and liquors	207,448.64
Ironware, steel, cutlery, etc	2,659.16	Total	462,943.26
Jewelry and precious stones	30,382.59	Total for same quarter in 1893	734,037.62
Leather, hides, and skins	25,930.05		
Machinery	1,190.00	Decrease	271,094.36
Sundries	3,297.80		

MUNICH.

Articles.	Value.	Articles.	Value.
Bronze powder and leaf metal	$1,614.74	Oil and glass paintings and chromos	$13,409.07
Books, stationery, photographs, and paper ware	12,689.96	Prunes, dried fruits, nuts, land produce, etc	5,212.20
China, glass, porcelain, stone, and earthen ware	1,737.09	Statuary and sculpture	4,230.42
Dyes, drugs, chemicals, etc	4,045.37	Sundries	10,141.83
Fancy goods and toys	1,378.31	Wine, brandy, beer, and liquors	17,466.59
Gold, silver, and metal paper	4,643.34	Watches, clocks, and watchmen's detectors	5,147.74
Gloves	11,785.99	Total	97,741.66
Instruments	864.45	Total for same quarter in 1893	166,290.49
Linen, woolen, and cotton goods	2,628.48		
Music, musical strings, and instruments	746.08	Decrease	68,548.83

NUREMBERG.

Articles.	Value.	Articles.	Value.
Brushes and hair pencils	$1,842.96	Leonic ware	$4,135.46
Bronze powder and leaf metal	40,534.85	Linen, woolen, and cotton goods	213.81
Books, stationery, photographs, and paper ware	28,485.39	Lithographic stones and materials	13,915.81
Clay	153.18	Machinery	737.80
China, glass, porcelain, stone, and earthen ware	15,939.65	Music, musical strings, and instruments	3,870.91
Colored, photographic, and fancy paper	867.29	Optical goods	576.68
Decalcomania	8,608.06	Oil and glass paintings and chromos	558.38
Dyes, drugs, chemicals, etc	11,840.04	Slates and slate pencils and lead pencils	18,243.11
Fancy goods and toys	8,627.00	Smokers' articles, snuff, cigars, and tobacco	1,026.16
Gold, silver, and metal paper	1,077.91	Sundries	12,385.53
Gas-burners, lava gas tips, brass lamps	3,191.19	Wine, brandy, beer, and liquors	10,919.72
Hair, prepared and raw	4,309.44	Total	218,992.86
Hops	2,825.36	Total for same quarter in 1893	325,484.15
Instruments	3,528.78		
Ironware, steel, cutlery, etc	8,304.57	Decrease	106,491.29
Leather, hides, and skins	12,273.82		

SONNEBERG.

Articles.	Value.	Articles.	Value.
Basket and basket ware	$655.05	Linen, woolen, and cotton goods	$415.35
Books, stationery, photographs, and paper ware	2,180.47	Slates and slate pencils and lead pencils	10,202.02
China, glass, porcelain, stone, and earthen ware	177,096.58	Sundries	2,196.50
Dyes, drugs, chemicals, etc	4,113.68	Wine, brandy, beer, and liquors	9,266.25
Fancy goods and toys	197,271.05	Total	413,869.00
Gloves	6,059.20	Total for same quarter in 1893	742,631.64
Ironware, steel, cutlery, etc	4,043.57	Decrease	328,762.64
Leather, hides, and skins	369.28		

Exports to United States from Frankfort and dependencies during June quarter—Continued.

STUTTGART.

Articles.	Value.	Articles.	Value.
Books, stationery, photographs, and paper ware	$8,020.50	Prunes, dried fruits, nuts, land produce, etc	$30,102.93
Corsets	20,129.27	Sundries	19,933.88
Dyes, drugs, chemicals, etc	30,617.07	Wine, brandy, beer, and liquors	922.21
Instruments	9,543.75	Watches, clocks, and watchmen's detectors	873.46
Ironware, steel, cutlery, etc	465,68		
Jewelry and precious stones	2,197.83	Total	164,665.53
Leather, hides, and skins	693.60	Total for same quarter in 1893	253,676.17
Linen, woolen, and cotton goods	12,427.75		
Music, musical strings, and instruments	28,737.60	Decrease	89,010.64

SUMMARY.

Articles.	Value.	Articles.	Value.
Braids, bindings and trimmings, etc	3,053.76	Leonic ware	$4,312.78
Baskets and basket ware	$148,001.31	Linen, woolen, and cotton goods	305,931.14
Brushes and hair pencils	41,460.62	Lithographic stones and materials	13,915.81
Bronze powder and leaf metal	1,842.96	Machinery	52,433.42
Books, stationery, photographs, and paper ware	97,272.82	Mineral water	94,032.27
Buttons and button stuffs, etc	178,689.98	Music, musical strings, and instruments	35,899.31
Caps and cartridges	22,914.03	Optical goods	9,605.55
Cement	5,172.34	Oil and glass paintings and chromos	15,676.97
Clay	144,481.01	Platina wire and platinum	71,000.11
China, glass, porcelain, stone, and earthen ware	17,597.12	Prunes, dried fruits, nuts, land produce, etc	102,863.65
Corsets	242,379.64	Pins and needles	33,510.59
Cologne water	20,129.27	Seeds, plants, etc	1,242.17
Colored, photographic, and fancy paper	3,879.54	Slates and slate pencils and lead pencils	28,445.13
Decalcomania	38,729.96		
Dyes, drugs, chemicals, etc	8,608.06	Silk, silk goods, velvets, ribbons and braids, etc	856,113.28
Fancy goods and toys	1,509,471.18		
Glass plate, window and mirror glass	311,518.53	Smokers' articles, snuff, cigars, and tobacco	9,610.09
Gold, silver, and metal paper	278,853.66	Soaps and perfumery	7,964.96
Gas-burners, lava gas tips, brass lamps	11,798.86	Statuary and sculpture	4,230.42
Gloves	3,191.19	Sundries	138,063.85
Hatters' fur	19,238.76	Steel (manufactued) and Bessemer	8,905.51
Hatbands and ribbons	6,483.30	Wine, brandy, beer, and liquors	407,230.70
Hair, prepared and raw	12,836.70		
Hares' hair	31,777.99	Watches, clocks, and watchmen's detectors	11,623.63
Hops	24,579.56	Wool	7,864.10
Instruments	7,762.16		
Ironware, steel, cutlery, etc	14,727.45	Total	6,153,296.83
Jewelry and precious stones	198,651.32	Total for same quarter in 1893	10,467,916.97
Leather, hides, and skins	32,580.42	Decrease	4,314,620.14
Leather goods	495,137.89		

FRANK H. MASON,
Consul-General.

FRANKFORT, *July 17, 1894.*

ITALY.

Exports to United States during June quarter.

CASTELLAMARE.

Articles.	Value.	Articles.	Value.
Beans	$195.02	Macaroni	$23,937.88
Cheese	1,920.46	Sundries	20,461.31
Fruits (unclassified)	5,943.87	Total	53,646.21
Garlic	1,187.67		

CATANIA.

Articles.	Value.	Articles.	Value.
Almonds	$6,344.65	Mustard seed	$800.92
Brimstone	5,335.89	Oranges	47,349.51
Canary seed	3,221.91	Pistachio nuts	4,121.80
Filberts	1,683.15	Wine lees	1,792.82
Groceries	1,005.50	Total	115,685.20
Lemons	41,332.56		
Licorice (paste)	2,696.49		

FLORENCE.

Articles.	Value.	Articles.	Value.
Alabaster (statuary)	$5,018.20	Pictures	$11,632.40
Baskets	144.94	Sausages	306.19
Bees	127.38	Silverware	2,405.00
Bronzes	540.00	Soap	638.20
China	4,429.80	Straw:	
Hemp	57,826.17	Braids	50,993.86
Household goods	4,822.24	Hats	82,986.09
Marble (statuary)	7,389.95	Wine	4,668.80
Medicines	236.62	Total	234,805.84
Mosaics	640.00		

GENOA.

Articles.	Value.	Articles.	Value.
Bowels	$194.98	Olive oil	$70,771.78
Cheese	14,269.58	Pictures	99.51
Filigree	1,610.78	Pumice stone	354.80
Fish (salted)	1,689.92	Rice	4,142.55
Fruits:		Saffron	459.94
Candied	598.50	Sausages	550.12
Dry	1,004.33	Semoule	808.71
Furniture	677.41	Silk (raw)	7,689.67
Gloves	795.31	Skins	2,876.15
Glycerin	8,732.42	Soap	1,099.20
Granite works	4,247.10	Straw (unclassified)	2,837.85
Gum arabic	370.08	Sundries	996.76
Jewelry	622.01	Tomatoes	4,1.20
Lemons	2,690.52	Tow	664.95
Liquors	639.92	Towels	1,056.82
Macaroni	3,587.43	Velvets	106.17
Matches	23.17	Waste	52,403.67
Medicines	309.46	Wine	3,482.73
Mushrooms	78.80	Total	193,280.10
Musical instruments	305.80		

Exports to United States from Italy during June quarter—Continued.

LEGHORN.

Articles.	Value.	Articles.	Value.
Anchovies	$179.77	Marble—Continued:	
Antimony	705.89	Slabs	$18,520.08
Argols	50,085.89	Statuary	14,916.02
Alabaster (statuary)	1,741.47	Worked	908.80
Beans	4,501.55	Medicines	391.02
Beeswax	935.83	Olive oil	103,685.56
Boracic acid	2,576.56	Orris root	3,277.94
Brier wood	11,733.35	Plaster casts	234.10
Cheese	2,298.24	Pumice stone	4,754.22
Citron:		Rags	35,057.36
In brine	10,347.39	Sienna earth	86.34
Candied	4,581.94	Soap	44,804.74
Fruits (dry)	2,293.88	Soap stock	17,202.99
Fine arts	583.92	Sundries	2,077.97
Hemp	16,761.01	Talc	762.94
Juniper berries	1,070.04	Umber earth	2,036.26
Marble:		Wine	1,526.70
Blocks	127,705.96	Total	487,874.23
Chippings	228.50		

MESSINA.

Articles.	Value.	Articles.	Value.
Almonds	$12,300.00	Macaroni	$296.48
Anchovies	262.24	Olive oil	84,566.94
Argols	58,964.10	Oranges	229,514.60
Canary seed	730.12	Orange peel	2,217.73
Citron (in brine)	661.00	Pistachio nuts	371.11
Essence (unclassified)	72,723.00	Pumice stone	992.07
Filberts	16,695.15	Silk (raw)	11,498.10
Hair (cattle)	978.06	Skins	845.14
Lemons	302,042.78	Tomato paste	499.06
In brine	1,838.00	Wine lees	6,740.11
Juice	447.10	Total	805,777.89
Peel	595.00		

MILAN.

Articles.	Value.	Articles.	Value.
Buttons	$2,006.72	Rice	$395.64
Cheese	4,574.12	Rubber goods	464.78
Combs	139.34	Silk:	
Dyestuffs	2,333.98	Manufactures	44,849.52
Furniture	318.54	Raw	1,124,646.01
Gloves	13,026.08	Waste	24,471.14
Hair (horse)	3,362.35	Skins	164.05
Hats	1,049.73	Soap	983.01
Hatbands	1,214.54	Wine	3,666.04
Medicines	1,418.32	Total	1,230,831.62
Mosaics	1,214.37		
Paints	533.34		

Exports to United States from Italy during June quarter—Continued.

NAPLES

Articles.	Value.	Articles.	Value.
Argols	$106,650.02	Olive oil	$8,187.66
Books	283.25	Oranges	117,306.44
Bronzes	1,104.00	Pictures	164.80
Cheese	7,805.20	Seeds	4,675.65
China	5,308.30	Silk (manufactures)	930.20
Coral	746.44	Soap	2,800.38
Coral beans	308.70	Soap stock	3,878.11
Fruits (unclassified)	27,607.03	Sulphur oil	15,296.67
Garlic	3,496.35	Sundries	24,346.73
Gloves	7,246.44	Tartar	3,013.36
Hair (human)	3,683.27	Tortoise shell	136.12
Jewelry	128.60	Wine	4,856.35
Licorice	1,920.86		
Mandolins	300.30	Total	352,181.23

PALERMO.

Almonds	$21,678.31	Oranges	$122,504.99
Brimstone	332,485.38	Orange peel	301.06
Cheese	3,971.15	Salt	15,784.84
Citrate of lime	33,626.92	Sumac	51,853.12
Lemons	1,210,995.97	Sundries	1,466.62
Essence	2,386.19	Tomato paste	602.46
Oil	4,196.01	Wine	2,508.45
Macaroni	6,201.97	Total	1,815,306.20
Manna	992.27		
Olive oil	3,750.49		

ROME.

Antiquities	$4,586.14	Pictures	$1,389.21
Asphaltum	241.25	Plaster casts	1,279.97
Bronzes	1,466.22	Pottery	34.77
Cheese	11,642.05	Sienna earth	67.55
Church goods	1,016.62	Silk (raw)	14,554.12
Furniture	741.26	Straw hats	321.92
Marble (statuary)	23,146.29	Wine	1,395.19
Mosaics	1,129.22	Total	71,266.48
Paintings	8,251.70		

TURIN.

Books	$51.03	Metal plates	$36.10
Fountains	1,727.35	Talc	1,095.66
Grindstones	137.42	Vermouth	41,996.21
Hair:		Wine	408.58
Cloth	1,384.24	Total	52,283.95
Human	5,002.68		
Matches	444.68		

Exports to United States from Italy during June quarter—Continued.

VENICE.

Articles.	Value.	Articles.	Value.
Antiquities	$806.35	Marble (statuary)	$400.00
Books	310.30	Matches	1,424.80
Bronzes	202.65	Sundries	1,549.10
Furniture	1,859.20	Total	33,303.15
Glass manufactures	1,916.27		
Hemp	24,834.48		

SUMMARY.

Almonds	$40,322.96	Hair:	
Anchovies	442.01	Cattle	$978.06
Antimony	705.89	Cloth	1,384.24
Antiquities	5,392.49	Horse	3,362.35
Argols	215,700.01	Human	8,685.95
Asphaltum	241.25	Hats	1,049.73
Alabaster (statuary)	6,759.67	Hatbands	1,214.54
Baskets	144.94	Hemp	99,421.66
Beans	4,696.57	Household goods	4,822.24
Bees	127.38	Jewelry	750.61
Beeswax	935.83	Juniper berries	1,070.04
Books	644.58	Lemons	1,557,061.83
Boracic acid	2,576.56	In brine	1,838.00
Bowels	194.98	Essence	2,386.19
Brier wood	11,733.35	Juice	447.10
Brimstone	337,821.27	Oil	4,196.01
Bronzes	3,312.87	Peel	595.00
Buttons	2,006.72	Licorice	1,920.86
Canary seed	3,952.03	Paste	2,696.49
Cheese	46,480.80	Liquors	639.92
China	9,738.10	Macaroni	34,023.76
Church goods	1,016.62	Mandolins	300.30
Citrate of lime	33,626.92	Manna	992.27
Citron:		Marble:	
In brine	11,008.39	Blocks	127,705.96
Candied	4,581.94	Chippings	228.50
Combs	139.34	Slabs	18,520.08
Coral	746.44	Statuary	45,852.26
Coral beans	308.70	Worked	208.80
Dyestuffs	2,333.98	Matches	1,892.65
Essence (unclassified)	72,723.00	Medicines	2,355.42
Filberts	18,378.30	Metal plates	36.10
Filigree	1,610.78	Mosaics	2,983.59
Fish (salted)	1,689.92	Mushrooms	78.80
Fountains	1,727.35	Musical instruments	305.80
Fruits:		Mustard seed	800.92
Candied	598.50	Olive oil	270,962.43
Dry	3,298.21	Oranges	516,675.54
Unclassified	33,550.90	Orange peel	2,518.79
Furniture	3,596.41	Orris root	3,277.94
Fine arts	583.92	Paintings	8,254.70
Garlic	4,684.02	Paints	533.34
Glass manufactures	1,916.27	Pictures	13,285.92
Gloves	21,067.83	Pistachio nuts	4,492.91
Glycerin	8,732.42	Plaster casts	1,514.07
Granite works	4,247.10	Pottery	34.77
Grindstones	137.42	Pumice stone	6,101.09
Groceries	1,005.50	Rags	35,057.36
Gum arabic	370.08	Rice	4,538.19

Exports to United States from Italy during June quarter—Continued.

SUMMARY—Continued.

Articles.	Value.	Articles.	Value.
Rubber goods	$464.78	Sulphur oil	$15,296.67
Seeds	4,675.65	Sumac	51,853.12
Saffron	459.94	Sundries	50,898.49
Salt	15,784.84	Talc	1,858.60
Sausages	856.31	Tartar	3,013.36
Semoule	808.71	Tomatoes	431.20
Sienna earth	153.89	Tortoise shell	136.12
Silk:		Tow	664.95
Manufactures	45,779.72	Towels	1,056.82
Raw	1,158,387.90	Tomato paste	1,101.52
Waste	24,471.14	Umber earth	2,036.26
Silverware	2,405.00	Velvets	106.17
Skins	3,885.34	Vermouth	41,996.21
Soap	50,325.53	Waste	52,403.67
Soap stock	21,081.10	Wine	22,512.84
Straw:		Wine lees	8,532.93
Braids	50,993.86	Total	5,446,242.10
Hats	83,308.01		
Unclassified	2,837.85		

WALLACE S. JONES,
Consul-General.

ROME, *July 23, 1894.*

MEXICO.

Exports to United States from Nuevo Laredo and dependencies during June quarter.

CHIHUAHUA.

Articles.	Value.	Articles.	Value.
Bullion (gold and silver)	$266,440	Hides and skins	$4,576
Fruits	7,532	Silver sulphides	18,857
Ores:		Total	357,499
Silver-bearing	58,416		
Copper	1,678		

DURANGO.

Bullion (gold and silver)	$104,789	Ore (silver-bearing)	$173,203
Cotton seed	114	Tin (block)	6,421
Cotton waste	732	Total	300,068
Hides and skins	10,533		
Oil cake	4,276		

Exports to United States from Nuevo Laredo and dependencies during June quarter—Cont'd.

MATAMOROS.

Articles.	Value.	Articles.	Value.
Asphaltum	$95	Ixtle (fiber)	$84
Bones	1,496	Leather and shoes	231
Bullion (gold and silver)	3,030	Sugar (crude)	2,089
Coffee	371	Wax	433
Hair (horse and cattle)	5,218	Miscellaneous	26
Hides and skins	23,149	Total	36,533
Horns	331		

NOGALES.

Articles.	Value.	Articles.	Value.
Bullion (gold and silver)	$182,787	Hides and skins	$822
Ores:		Miscellaneous	51
Silver-bearing	98,483	Total	282,665
Copper	522		

NUEVO LAREDO.

Articles.	Value.	Articles.	Value.
Argentiferous lead	$2,171,054	Ixtle (fiber)	$6,096
American products returned	28,468	Lime	164
Beans and pease	1,152	Morrales (ixtle bags)	726
Bones	23	Parrots	464
Bullion (gold and silver)	13,754	Pepper (Chile)	385
Coffee	56,300	Sarsaparilla	3,701
Fruits	826	Sugar (crude)	8,052
Hats (straw and felt)	647	Woods (cedar, mahogany, etc.)	903
Hair (horse and cattle)	12,261	Total	2,413,551
Hides and skins	108,575		

PASO DEL NORTE.

Articles.	Value.	Articles.	Value.
Argentiferous lead	$5,531	Opals	$465
American products returned	12,481	Ores (free)	42,587
Beans and pease	1,490	Pepper (Chile)	13
Bullion (gold and silver)	113,114	Plants	5,240
Coffee	19,057	Sugar (crude)	319
Hats (straw and felt)	10	Miscellaneous	166
Hides and skins	2,195	Total	203,342
Leather and shoes	319		
Oil cake	165		

PIEDRAS NEGRAS.

Articles.	Value.	Articles.	Value.
Argentiferous lead	$63,772	Hides and skins	$17,538
American products returned	254	Oil cake	1,762
Bones	755	Ore (silver-bearing)	72,536
Coal	26,521	Sugar (crude)	283
Cotton waste	716	Miscellaneous	303
Feathers and plumes	1,333	Total	187,367
Hats (straw and felt)	79		
Hair (horse and cattle)	1,515		

Exports to United States from Nuevo Laredo and dependencies during June quarter—Cont'd.

SAN LUIS POTOSI.

Articles.	Value.	Articles.	Value.
Bullion (base)	$409,638	Saffron	$1,019
Coffee	8,954	Tin (block)	1,200
Hair (horse and cattle)	94	Miscellaneous	44
Hides and skins	76,492	Total	712,712
Ore (free)	213,568		
Pepper (Chile)	1,703		

SALTILLO.

Bullion:		Ixtle (fiber)	$24,629
Gold and silver	$7,816	Ore (silver-bearing)	71,050
Copper and matte	64,241	Total	251,598
Hair (horse and cattle)	11,672		
Hides and skins	72,190		

TAMPICO.

American products returned	$54	Honey	$15,228
Asphaltum	1,592	Ixtle (fiber)	15,009
Bullion (gold and silver)	4,359	Parrots	38
Coffee	73,102	Sarsaparilla	8,381
Chicle (chewing gum)	346	Woods (cedar, mahogany, etc.)	305
Feathers and plumes	2,177	Miscellaneous	140
Fustic (dyewood)	19,198	Total	170,714
Hair (horse and cattle)	1,022		
Hides and skins	29,763		

TUXPAN.

Bullion (gold and silver)	$390	Rubber	$2,762
Coffee	6,796	Sarsaparilla	66
Chicle (chewing gum)	36,674	Vanilla	116,619
Feathers and plumes	61	Woods (cedar, mahogany, etc.)	29,872
Fustic (dyewood)	1,443	Total	212,896
Hides and skins	3,022		
Honey	15,191		

Exports to United States from Nuevo Laredo and dependencies during June quarter—Cont'd.

SUMMARY.

Articles.	Value.	Articles.	Value.
Argentiferous lead	$2,240,357	Lime	$164
American products returned	41,257	Morrales (ixtle bags)	726
Asphaltum	1,687	Oil cake	6,203
Beans and pease	2,642	Opals	465
Bones	2,274	Ores:	
Bullion:		Free	256,155
Gold and silver	696,479	Silver-bearing	473,688
Copper and matte	64,241	Copper	2,200
Base	409,638	Parrots	502
Coal	26,521	Pepper (Chile)	2,101
Coffee	164,580	Plants	5,240
Chicle (chewing gum)	37,020	Rubber	2,762
Cotton seed	114	Saffron	1,019
Cotton waste	1,448	Sarsaparilla	12,148
Feathers and plumes	3,571	Silver sulphides	18,857
Fruits	8,358	Sugar (crude)	10,743
Fustic (dyewood)	20,641	Tobacco	190
Hats (straw and felt)	736	Tin (block)	7,621
Hair (horse and cattle)	31,782	Vanilla	116,619
Hides and skins	348,855	Wax	413
Honey	30,419	Woods (cedar, mahogany, etc.)	31,080
Horns	331	Miscellaneous	730
Ixtle (fiber)	45,818	Total	5,128,945
Leather and shoes	550		

NOTE.—No report has been received from Ensenada or Guaymas.

JOSEPH G. DONNELLY,
Consul-General.

NUEVO LAREDO, *July 24, 1894.*

NETHERLANDS.

Exports to United States during June quarter.

Articles.	Amsterdam.	Rotterdam.	Total.
Antiquities	$3,482.12	$180.00	$3,662.12
Bagging	719.02	7,038.28	7,757.30
Balances		1,720.15	1,720.15
Beans and pease	1,049.35	209.32	1,258.67
Bitters		525.00	525.00
Bleaching powder		3,333.01	3,333.01
Books	2,212.59	156.00	2,368.59
Bottles and cases		614.09	614.09
Bulbs	501.04		501.04
Candle pitch		1,776.05	1,776.05
Carboleum		1,200.00	1,200.00
Cassia	831.74	1,127.72	1,959.46
Cheese	5,179.52	5,197.83	10,377.35
Church symbols		1,406.03	1,406.03
Cocoa	91,042.91		91,042.91
Beans	21,548.81		21,548.81
Butter	27,922.58	1,713.50	29,636.08
Coffee	157,891.43	43,783.30	201,674.73

Exports to United States from the Netherlands during June quarter—Continued.

Articles.	Amsterdam.	Rotterdam.	Total.
Cotton-seed hulls		$245.00	$245.00
Delftware		6,891.80	6,891.80
Diamonds	$948,725.86		948,725.86
Dyestuffs and drugs	13,012.89		13,012.89
Earthenware		959.02	959.02
Empty grain bags	128.00	1,089.80	1,217.80
Fish (sardelles)	3,083.79		3,083.79
Flax		4,106.40	4,106.40
Furniture		2,370.00	2,370.00
Gin		11,467.04	11,467.04
Gums	4,028.68		4,028.68
Hair		626.68	626.68
Herring		4,428.40	4,428.40
Indigo	3,750.28	6,758.22	10,508.50
Liquors	4,825.66		4,825.66
Mace	2,445.85	1,264.81	3,710.66
Machinery		360.00	360.00
Madder	1,050.94	2,242.41	3,293.35
Matches	1,116.30	5,597.50	6,713.80
Metallic capsules	2,326.65	335.01	2,661.66
Mineral water		4,263.50	4,263.50
Nutmegs	34,517.98	18,042.46	52,560.44
Oils	3,603.94	3,761.46	7,365.40
Paintings	1,220.06	1,476.48	2,696.54
Peat moss (turf litter)	13,008.24	5,011.21	18,019.45
Pepper	12,995.56	6,139.17	19,134.73
Plants		136.80	136.80
Plate glass	18,316.54		18,316.54
Rags	5,107.89	13,163.70	18,271.59
Rice	57,952.82		57,952.82
Roots and herbs		776.94	776.94
Rubramine		640.00	640.00
Seeds (field and garden)	12,429.81	1,161.12	13,590.93
Shells		1,854.00	1,854.00
Show cards		2,000.00	2,000.00
Silverware		437.38	437.38
Skins and hides	37,090.53	8,297.50	45,388.03
Sugar (refined and beet)	71,117.16	5,268.48	76,385.64
Straw covers		560.94	560.94
Tin (Banka, Billiton, Straits)	88,120.70	7,836.09	95,956.79
Tin foil		126.36	126.36
Tobacco (Sumatra)	3,174,400.04	80,703.10	*3,255,103.14
Vegetables (in brine)	1,452.50	212.60	1,665.10
Wine, brandy, etc		63.91	63.91
Woolen manufactures		976.76	976.76
Sundries	8,219.50	540.81	8,760.31
Total	4,836,429.28	282,173.14	5,118,602.42

*Number of bales of Sumatra tobacco from Amsterdam, 14,769; from Rotterdam, 461.

EDWARD DOWNES,
Consul.

AMSTERDAM, *June 30, 1894.*

No. 168——8.

RUSSIA.

Exports to United States during June quarter.

Articles.	Batoum.	Libau.	Moscow.	Odessa.	Riga.	St. Petersburg.	Total.
Albumen of blood					$2,883.29	$2,812.50	$5,695.79
Beet-root seed				$307.52			307.52
Birch oil						323.37	323.37
Boltropes						7,960.70	7,960.70
Books						855.09	855.09
Bristles						41,910.16	41,910.16
Bronze articles						1,299.82	1,299.82
Camel hair			$63,859.00				683.59
Church articles						2,432.50	2,432.50
Crash						7,365.00	7,365.00
Cumin seed		$124.58					124.58
Fish bladders						1,069.15	1,069.15
Goatskins	$1,127.84	61,790.99	8,485.00	33,947 85	3,172.25	29,688.03	138,213.96
Hemp					18,819.90		18,819.90
Isinglass						466.65	466.65
Leather					697.19	814.70	1,657.04
Licorice root	222,103.27						222,103.27
Liquors					564.69		564.69
Lycopodium						7,413.27	7,413.27
Machinery						390.75	390.75
Manganese ore	131,344.30						131,344.30
Musical instruments						250.00	250.00
Oakum						2,490.10	2,490.10
Plants (dried)							96.50
Rennets					941.33		941.33
Sundries			520.00			407.20	931.86
Tissue paper				164.25			164.25
Wool	7,652.10		23,879.00	6,024.29			136,227.54
Silverware			1,483.00				1,488.00
Total	362,227.51	61,915 57	98,231.00	40,445 91	27,078.65	107,948.99	796,766.09

From Helsingfôrs, there were exported dried plants valued at $96.50; from Revel, sundries valued at $4.66; from Rostov, wool valued at $98,672.15; and from Warsaw, leather valued at $145.15—all included in the above table.

No exports were declared for the United States at the agencies at Abo, Cronstadt, Taganrog, and Wiborg during the quarter.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *July 20, 1894.*

SWEDEN AND NORWAY.

Exports to United States during June quarter.

Articles.	Bergen.	Christiania.	Drontheim.	Gothenberg.	Malmo.	Stavanger.	Stockholm.	Total.
Acids		$3,263.76						$3,263.76
Books	$255.53	1,557.90		$1,465.09				3,278.52
Cements					$7,781.37			7,781.37
Cheese	1,197.65							1,197.65
Cod oil	19,069.68	2,056.07						21,125.75
Cutlery				83.55				83.55
Fish (dried, etc.)	266.12			1,253.17				1,519.29
Furs	89.63							89.63
Gloves				1,382.18				1,382.18
Gunny		623.26						623.26
Hardware				362.89				362.89
Herring	16,762.62	2,901.23				$530.00		20,193.85
Iron				78,156.86			$47,399.18	125,556.04
Iron-wire rods							42,977.35	42,977.35
Liquors				1,009.30				1,009.30
Lubricators				136.16				136.16
Mackerel		1,463.51						1,463.51
Matches		701.69		35,092.69	2,815.25			38,609.63
Mica		275.10						275.10
Miscellaneous		1,840.05		303.66			8,446.07	10,589.78
Nail rods							10,843.68	10,843.68
Parts of machinery							20,050.76	20,050.76
Pig iron							20,368.98	20,368.98
Preserves						1,101.59		1,101.59
Pulp wood		61,902.77	$14,548.03	6,067.84				82,518.64
Ropes		1,295.11						1,295.11
Silverware	648.00	1,017.69						1,665.69
Skins	1,768.28	3,927.41						5,695.69
Sprat (in oil)	1,469.74					694.93		2,164.67
Spirits			592.11					592.11
Steel				518.24			13,170.50	13,688.74
Steel-wire rods							8,693.44	8,693.44
Total	41,527.25	82,825.55	15,140.14	125,831.63	10,596.62	2,326.52	171,949.96	450,197.67
Total same quarter 1893	41,300.66	220,155.94	43,299.57			5,899.86	429,779.59	

THOS. B. O'NEIL,
Consul.

STOCKHOLM, *July 23, 1894.*

SWITZERLAND.

Exports to United States during June quarter.

Articles.	Basle.	Berne.	Geneva.	Horgen.	St. Gall.	Zurich.	Total.
Absinthe	$3,546.08						$3,546.08
Aniline colors	64,397.70		$763.83				65,161.53
Argols	176.18						176.18
Asphalt	3,819.00						3,819.00
Beef extract						$2,779.20	2,779.20
Brushes						477.68	477.68
Catholic articles				$7,796.70			7,796.70
Cheese		$149,463.51		3,377.86		25,554.12	178,395.49
Chocolate	1,644.20						1,644.20
Condensed milk			22,931.49	23,926.21			46,857.70
Church articles					$1,393.40		1,393.40
Cotton:							
Cloth					20,033.64	563.20	20,596.84
Embroideries					314,311.41	350.50	314,661.91
Yarn						517.32	517.32
Curtains					46,896.00		46,896.00
Dresses, aprons, handkerchiefs, ties, and other fancy articles					103,676.04		103,676.04
Dyestuffs and chemicals	48,580.38						48,580.38
Elastics						488.41	488.41
Figured and dotted Swisses					86,294.66		86,294.66
Furs			289.11				289.11
Gelatin						1,677.68	1,677.68
Grease						206.36	206.36
Hardware			1,518.91				1,518.91
Household goods			18,537.00			1,003.60	19,540.67
Hides (salted)	10,739.20						10,739.20
Jewelry			909.22				909.22
Laces					41,350.01		41,350.01
Leather			6,666.99				6,666.99
Machines and parts thereof			1,175.95	1,397.90	461.22	596.95	3,632.02
Musical boxes			14,955.95				14,955.95
Oil chromos						119.90	119.90
Pharmaceutical preparations			129.55				129.55
Ribbons, silk and mixed.	147,729.53					5,919.06	153,648.59
Silk:							
Bolting cloth					12,392.00	34,326.07	46,718.42
Embroideries					4,630.71	636.60	5,267.31
Silk and half-silk piece goods				206,256.25		354,804.91	561,061.16
Spun				4,450.19			4,450.19
Waste	33,370.46						33,370.46
Tissues		8,174.76					8,174.76
Scientific instruments	151.40		806.16			595.07	1,552.63
Straw goods		4,063.62				36,583.29	40,646.91
Swiss pills						1,465.83	1,465.83
Sundries	1,778.06	2,818.83		485.93	694.00		5,776.82
Underwear, knit goods, etc	1,838.45	4,885.16				13,991.82	20,715.43

Exports to United States from Switzerland during June quarter—Continued.

Articles.	Basle.	Berne.	Geneva.	Horgen.	St. Gall.	Zurich.	Total.
Velvets						$268.85	$268.85
Wine and spirits	$288.45			$1,062.75		419.99	1,771.19
Watches and watch material	181,923.79	$84.53	$30,902.97			330.39	213,241.68
Wood carvings		168.95					168.95
Total	499,982.88	169,659.36	99,587.20	248,753.79	$632,133.08	483,676.80	2,133,793.11
Total same quarter in 1893	845,968.10	212,233.95	203,264.75	416,144.35	1,014,302.81	698,034.33	3,389,948.29
Decrease	345,985.22	42,574.59	103,677.55	167,390.56	382,169.73	214,357.53	1,256,155.18

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *July 6, 1894.*

UNITED KINGDOM.

Exports to United States from the United Kingdom during June quarter.

BELFAST.

Articles.	Value.	Articles.	Value.
Beer, ale, stout, etc	$43,436.89	Unions	$19,180.91
Cotton manufactures	75,252.54	Wines and spirits	50,093.75
Fruits, nuts, and vegetables	1,446.26	All other articles	1,032.76
Hats and felt	3,838.17	Total	1,496,189.51
Hemp, flax, and tow	125,652.59	Total for same quarter in 1893	2,035,796.85
Linens	1,122,008.39		
Stationery	7,020.51	Decrease	539,607.34
Thread	47,226.74		

BIRMINGHAM.

Bricks and tiles	$6,158.61	Metals:	
Buttons	4,661,48	Iron, steel, and manufactures	$176,121.20
Carpets and rugs	5,793.48	Other	8,857.03
Cotton manufactures	5,000.07	Skins, hides, furs, etc	50,139.06
Cycles	32,447.53	Unions	4,150.17
Drugs, chemicals, dyes, etc	53,090.44	All other articles	67,890.23
Glass, china, and earthen ware	18,484.70		
Glue and gelatin	4,867.00	Total	523,996.67
Hardware	34,004.65	Total for same quarter in 1893	1,037,267.63
Preserves, pickles, etc	9,077.82	Decrease	508,270.96
Saddlery	43,253.20		

Exports to United States from the United Kingdom during June quarter—Continued.

BRADFORD.

Articles.	Value.	Articles.	Value.
Card clothing	$13,191.93	Scientific and other instruments	$410.40
Carpets and rugs	1,605.20	Silks	66,296.18
Cotton	7,421.20	Stuff goods	554,321.80
Cotton manufactures	118,772.50	Woods	122.20
Drugs, chemicals, dyes, etc	1,217.30	Wool, camel hair, etc	160,436.42
Furniture	9,653.37	Woolens	239,969.38
Glass, china, and earthen ware	1,065.72	Yarn	1,714.53
Grease, etc	814.90	All other articles	2,902.45
Hair (cattle, etc.)	6,429.35	Total	1,257,016.75
Leather, etc	8,404.97	Total for same quarter in 1893	3,077,474.35
Machinery	78,994.88		
Metals (iron, steel, and manufactures)	43,543.92	Decrease	1,820,457.60
Paper and paper hangings, etc	728.15		

BRISTOL.

Articles.	Value.	Articles.	Value.
Books, prints, engravings, etc	$3,003.24	Rope	$828.62
Cocoa and chocolate	3,860.90	Skins, hides, furs, etc	6,999.11
Colors, paints, and varnishes	321.30	Stone (marble, granite, etc.)	1,187.70
Cotton manufactures	127.16	Tin plates	6,656.66
Drugs, chemicals, dyes, etc	8,818.12	Wines and spirits	5,469.00
Elastic	1,885.72	Woolens	6,388.43
Fuller's earth	1,215.00	All other articles	209.64
Glue and gelatin	2,113.61	Total	52,899.49
Machinery	112.46	Total for same quarter in 1893	94,062.15
Ores (iron, etc.)	2,731.86		
Preserves, pickles, etc	970.96	Decrease	41,162.66

CARDIFF.

Articles.	Value.
Coal and coke	$24,489.15
Machinery	2,229.78
Metals (iron, steel, and manufactures)	187.63
Tin	10,898.30
Tin plates	158,904.36
Total	196,709.22
Total for same quarter in 1893	974,507.66
Decrease	777,798.44

CORK.

Articles.	Value.	Articles.	Value.
Feathers	$3,055.61	Wines and spirits	$179.32
Fish	23,251.40	All other articles	510.98
Hats and felt	1,391.88		
Skins, hides, furs, etc	320.51	Total	29,119.64
Stone (marble, granite, etc.)	336.94	Total for same quarter in 1893	28,820.81
Wearing apparel	73.00	Increase	298.83

Exports to United States from the United Kingdom during June quarter—Continued.

DUBLIN.

Articles.	Value.	Articles.	Value.
Beer, ale, stout, etc	$99,542.85	Skins, hides, furs, etc	$10,557.38
Books, prints, engravings, etc	243.32	Wines and spirits	8,398.23
Drugs, chemicals, dyes, etc	194.66	Woolens	2,522.00
Feathers	832.51	All other articles	1,185.52
Gloves, hosiery, etc	218.44		
Glue and gelatin	3,094.43	Total	130,118.10
Provisions (cheese, bacon, etc.)	2,391.96	Total for same quarter in 1893	302,616.52
Sausage casings	936.80	Decrease	172,498.42

DUNDEE.

Articles.	Value.	Articles.	Value.
Bags and bagging	$8,048.93	Paper stock	$6,785.83
Blacking	220.32	Preserves, pickles, etc	2,667.05
Burlaps	978,151.31	Scientific and other instruments	3,761.47
Carpets and rugs	14,011.18	Stone (marble, granite, etc.)	77,362.00
Cotton manufactures	4,046.54	Unions	3,779.72
Fish	2,097.10	Wines and spirits	1,197.54
Fruits, nuts, and vegetables	181,749.06	Wool, camel hair, etc	24,383.87
Hemp, flax, and tow	3,444.88	Woolens	3,678.08
Jute	57,789.51	Yarn	20,892.33
Leather, etc	24,087.46	All other articles	50,312.30
Linens	290,447.83	Total	1,773,389.33
Machinery	368.58	Total for same quarter in 1893	2,448,413.96
Ores (iron, etc.)	1,260.00		
Paper and paper hangings, etc	12,846.44	Decrease	675,024.63

DUNFERMLINE.

Articles.	Value.
Cotton manufactures	$12,128.23
Floor cloth	7,008.80
Linens	252,864.07
All other articles	28.47
Total	272,019.57
Total for same quarter in 1893	463,979.61
Decrease	191,960.04

FALMOUTH.

Articles.	Value.
China clay	$68,466.78
Machinery	1,188.45
Works of art	156.10
Total	69,811.33
Total for same quarter in 1893	60,529.82
Increase	9,281.51

Exports to United States from the United Kingdom during June quarter—Continued.

GLASGOW.

Articles.	Value.	Articles.	Value.
Animals	$216.45	Paper, paper hangings, etc	$1,690.44
Beer, ale, stout, etc	297.81	Paper stock	10,516.95
Books, prints, engravings, etc	28,173.29	Pitch and tar	12,646.38
Carpets and rugs	15,360.70	Provisions (cheese, bacon, etc.)	53,397.42
Coal and coke	29,503.34	Silks	5,860.60
Colors, paints, and varnishes	2,256.16	Skins, hides, furs, etc	19,141.12
Cotton manufactures	103,001.97	Stone (marble, granite, etc.)	1,330.43
Drugs, chemicals, dyes, etc	86,564.84	Thread	29,325.93
Fish	8,296.46	Unions	1,547.56
Fruits, nuts, and vegetables	109,865.87	Wines and spirits	4,947.74
Glass, china, and earthen ware	9,080.70	Wool, camel hair, etc	49,146.00
Hardware	154.20	Woolens	1,289.31
Hemp, flax, and tow	56,801.83	All other articles	6,447.82
Jute	1,226.69	Total	703,674.37
Lace	20,061.45	Total for same quarter in 1893	1,171,245.20
Linens	4,016.86		
Machinery	22,337.79	Decrease	467,570.83
Metals (iron, steel, and manufactures).	9,170.26		

HUDDERSFIELD.

Articles.	Value.	Articles.	Value.
Bags and bagging	$58.66	Silks	$70.28
Bricks and tiles	403.14	Stationery	366.26
Card clothing	7,688.52	Stuff goods	176.11
Cotton	1,578.45	Tea	10.51
Cotton manufactures	1,043.00	Thread	36,969.06
Drugs, chemicals, dyes, etc	31,144.71	Unions	482.88
Fuller's earth	4,204.16	Wool, camel hair, etc	6,869.05
Glue and gelatin	60.26	Woolens	252,911.27
Grease, etc	4,722.04	Yarn	10,239.54
Jute	585.29		
Linens	650.54	Total	362,189.98
Machinery	889.56	Total for same quarter in 1893	778,141.50
Metals (iron, steel, and manufactures)	1,066.64	Decrease	415,951.52

HULL.

Articles.	Value.	Articles.	Value.
Bags and bagging	$1,273.21	Machinery	$464.99
Coal and coke	1,988.26	Metals	1,099.73
Colors, paints, and varnishes	7,513.48	Pitch and tar	286.66
Drugs, chemicals, dyes, etc	4,249.85	All other articles	3,227.00
Fruits, nuts, and vegetables	27,543.40		
Grease, etc	2,697.42	Total	55,844.53
Hemp, flax, and tow	4,383.45	Total for same quarter in 1893	120,858.66
Leather, etc	774.45	Decrease	65,014.13
Linseed	342.60		

Exports to United States from the United Kingdom during June quarter—Continued.

LEEDS.

Articles.	Value.	Articles.	Value.
Confectionery	$2,637.62	Woolens	$30,233.86
Drugs, chemicals, dyes, etc	7,365.25	Yarn	1,611.42
Glass, china, and earthen ware	11,827.75	All other articles	1,731.66
Leather, etc	3,518.78	Total	140,630.26
Metals (iron, steel, and manufactures)	44,921.36	Total for same quarter in 1893	282,365.50
Silks	6,769.51		
Skins, hides, furs, etc	29,591.16	Decrease	141,735.24
Thread	421.89		

LEITH.

Articles.	Value.	Articles.	Value.
Animals	$121.66	Ores (iron, etc.)	$111.60
Beer, ale, stout, etc	10,911.07	Paper stock	657.68
Books, prints, engravings, etc	6,291.63	Provisions (cheese, bacon, etc.)	936.47
Drugs, chemicals, dyes, etc	7,548.11	Rubber clothing and manufactures	27.29
Fish	1,216.26	Skins, hides, furs, etc	1,692.32
Fruits, nuts, and vegetables	17,314.75	Sugar	260.39
Glass, china, and earthen ware	517.18	Wines and spirits	6,359.86
Glue and gelatin	52,521.21	Woolens	9,637.22
Grease, etc	6,049.24	All other articles	3,386.59
Machinery	751.96	Total	127,122.15
Metals:		Total for same quarter in 1893	164,404.08
Iron, steel, and manufactures	604.18		
Other	205.48	Decrease	37,281.93

LIVERPOOL.

Articles.	Value.	Articles.	Value.
Animals	$9,460.46	Ores (iron, etc.)	$413.65
Bags and bagging	87,418.89	Paper stock	$93,811.51
Beer, ale, stout, etc	35,958.54	Pitch and tar	2,778.76
Books, prints, engravings, etc	3,053.38	Provisions (cheese, bacon, etc.)	1,854.13
Bricks and tiles	15,676.83	Rubber (raw)	269,462.96
Cement	50,090.87	Saddlery	3,216.74
China clay	16,565.54	Salt	81,275.40
Coal and coke	87,382.86	Sausage casings	2,267.78
Colors, paints, and varnishes	10,537.30	Seeds, plants, etc	14,541.09
Cotton manufactures	210,553.98	Skins, hides, furs, etc	167,383.26
Drugs, chemicals, dyes, etc	1,265,645.87	Spices	58,592.45
Fish	8,010.25	Stone (marble, granite, etc.)	2,705.77
Floor cloth	16,074.04	Sugar	136,227.92
Fruits, nuts, and vegetables	123,628.56	Tea	32,655.14
Furniture	7,869.79	Tin	25,549.11
Glass, china, and earthen ware	16,267.90	Tin plates	1,569,645.98
Glue and gelatin	1,119.29	Tobacco, cigarettes, etc	126.52
Grease, etc	63,249.89	Wines and spirits	2,063.38
Hardware	3,537.93	Woods	21,432.05
Hats and felt	4,039.18	Wool, camel hair, etc	103,393.64
Hemp, flax, and tow	136,828.02	All other articles	59,424.61
Machinery	5,072.09	Total	4,992,118.65
Metals:		Total for same quarter in 1893	7,125,331.85
Iron, steel, and manufactures	150,879.72		
Other	14,375.62	Decrease	2,133,213.20

Exports to United States from the United Kingdom during June quarter—Continued.

LONDON.

Articles.	Value.	Articles.	Value.
Animals	$27,125.63	**Metals:**	
Antimony	42,282.08	Iron, steel, and manufactures	$11,477.58
Artificial flowers	5,793.46	Other	101,031.86
Bags and bagging	26,593.22	Oils	101,830.94
Beer, ale, stout, etc	125,459.14	Paper and paper hangings, etc	43,605.56
Blacking	5,619.63	Paper stock	79,259.45
Books, prints, engravings, etc	298,637.29	Perfumery	11,488.95
Bristles	14,252.73	Pitch and tar	46,844.06
Brushes	8,004.63	Plumbago	3,190.15
Burlaps	27,057.92	Precious stones	661,673.19
Buttons	218.14	Preserves, pickles, etc	68,363.58
Carpets and rugs	28,722.95	Provisions (cheese, bacon, etc.)	14,672.88
Cement	312,084.61	Rice	24,815.82
Chalk	10,299.32	Rubber:	
China clay	2,238.89	Raw	43,161.35
Clocks and watches	4,075.51	Clothing and manufactures	12,302.05
Coal and coke	8,479.00	Saddlery	15,919.42
Cocoa and chocolate	52,285.07	Sausage casings	24,186.69
Coffee	426,442.19	Scientific and other instruments	18,710.09
Colors, paints, and varnishes	62,819.17	Seeds, plants, etc	24,154.49
Confectionery	12,340.07	Shellac	86,942.88
Cotton	3,792.20	Shells	131,441.02
Cotton manufactures	32,797.90	Silks	31,333.71
Cutlery	152.68	Soaps	61,006.16
Drugs, chemicals, dyes, etc	575,757.88	Skins, hides, furs, etc	1,520,488.08
Emery and polishing powders	4,838.33	Spices	132,469.62
Feathers	141,080.52	Sponges	23,670.05
Fish	1,936.16	Stationery	26,883.99
Floor cloth	27,959.91	Sticks and canes	6,476.91
Fruits, nuts, and vegetables	42,614.36	Straw plait and braids	99,294.52
Fuller's earth	19,313.31	Straw manufactures	4,203.76
Furniture	13,873.41	Stone (marble, granite, etc.)	7,633.23
Glass, china, and earthen ware	20,048.31	Sugar	59,338.79
Gloves, hosiery, etc	14,700.09	Tea	151,565.20
Glue and gelatin	15,345.45	Tin	553,146.95
Grease, etc	4,507.33	Tin plates	12,403.15
Gums	72,340.26	Tobacco, cigarettes, etc	15,227.58
Hair (cattle, etc.)	50,030.60	Wearing apparel	32,961.79
Hardware	1,158.61	Wines and spirits	56,585.17
Hats and felt	5,584.74	Woods	26,367.92
Hemp, flax, and tow	148,590.54	Wool, camel hair, etc	209,445.93
Indigo	95,483.30	Woolens	149,062.32
Ivory	49,988.57	Works of art	64,943.93
Jute	4,945.76	Yarn	1,627.58
Lace	2,139.57	All other articles	90,433.77
Leather, etc	62,904.05	Total	8,153,707.98
Linens	30,213.24	Total for same quarter in 1893	13,077,207.72
Linseed	270,860.71		
Machinery	22,467.03	Decrease	4,923,499.74
Matches	1,610.23		
Mustard	55,200.19		

Exports to United States from the United Kingdom during June quarter—Continued.

MANCHESTER.

Articles.	Value.	Articles.	Value.
Buttons	$158.93	Metals (iron, steel, and manufactures)	$43,769.68
Card clothing	2,852.44	Paper and paper hangings, etc	29,371.46
Carpets and rugs	19,399.33	Paper stock	107,784.94
Cotton	5,700.70	Rubber clothing and manufactures	2,840.47
Manufactures	680,718.24	Silks	117,668.95
Drugs, chemicals, dyes, etc	167,755.23	Wearing apparel	4,001.50
Elastic	20,395.46	Woolens	25,666.39
Gloves, hosiery, etc	15,303.16	Yarn	2,091.44
Hair (cattle, etc.)	7,688.69	All other articles	19,051.27
Hats and felt	186.38		
Lace	68,930.07	Total	1,626,795.23
Leather, etc	20,905.19	Total for same quarter in 1893	3,400,733.49
Linens	177,456.59	Decrease	1,773,938.26
Machinery	87,098.72		

NEWCASTLE.

Articles.	Value.	Articles.	Value.
Antimony	$26,391.03	Pitch and tar	$900.35
Books, prints, engravings, etc	340.65	Rope	6,233.99
Bricks and tiles	2,691.17	Skins, hides, furs, etc	52,334.34
Cement	10,239.12	Stone (marble, granite, etc.)	11,604.05
Coal and coke	22,025.78	Woolens	1,911.04
Colors, paints, and varnishes	5,552.68	All other articles	1,853.22
Cotton manufactures	11,424.90		
Drugs, chemicals, dyes, etc	60,809.71	Total	234,142.96
Leather, etc	5,019.79	Total for same quarter in 1893	336,824.88
Linens	4,304.84	Decrease	102,681.92
Metals (iron, steel, and manufactures)	10,506.29		

NOTTINGHAM.

Articles.	Value.	Articles.	Value.
Colors, paints, and varnishes	$15,269.53	Metals (iron, steel, and manufactures)	$2,332.25
Cotton	19,244.96	Ores (iron, etc.)	3,999.91
Manufactures	47,626.96	Precious stones	921.90
Cycles	14,914.15	Silks	75,149.78
Drugs, chemicals, dyes, etc	2,925.47	Skins, hides, furs, etc	86,192.75
Elastic	47,854.86	Wearing apparel	1,288.66
Emery and polishing powders	2,550.64	Woolens	2,818.76
Glass, china, and earthen ware	379.98	All other articles	3,851.53
Gloves, hosiery, etc	27,426.03		
Grease, etc	745.75	Total	1,121,441.27
Lace	702,115.04	Total for same quarter in 1893	1,207,294.16
Leather, etc	8,841.41	Decrease	85,852.89
Linens	41,822.77		
Machinery	13,168.18		

Exports to United States from the United Kingdom during June quarter—Continued.

PLYMOUTH.

Articles.	Value.
China clay	$19,933.02
Drugs, chemicals, dyes, etc	7,224.50
Wearing apparel	63.68
Wines and spirits	3,275.88
Works of art	122.50
Total	30,619.58
Total for same quarter in 1893	92,939.72
Decrease	62,320.14

SHEFFIELD.

Articles.	Value.	Articles.	Value.
Animals	$4.39	Metals:	
Beer, ale, stout, etc	1,713.01	Iron, steel, and manufactures	$273,184.25
Cutlery	31,721.34	Other	547.51
Drugs, chemicals, dyes, etc	2,340.74	Precious stones	691.31
Furniture	464.99	Unions	282.50
Glue and gelatin	21,078.43	All other articles	6,702.65
Hair (cattle, etc.)	888.71		
Hardware	8,999.19	Total	356,791.54
Linens	5,042.81	Total for same quarter in 1893	561,387.74
Machinery	2,568.65	Decrease	204,596.20
Oils	561.06		

SOUTHAMPTON.

Carpets and rugs	$279.36	All other articles	$1,285.98
Linens	961.70	Total	24,875.63
Scientific and other instruments	197.45	Total for same quarter in 1893	19,963.33
Skins, hides, furs, etc	9,255.00		
Spices	12,896.14	Increase	4,912.30

SWANSEA.

Bricks and tiles	$2,515.53	Tin	$12,295.76
Coal and coke	75,524.58	Tin plates	1,741,265.52
Drugs, chemicals, dyes, etc	31,176.90	All other articles	249.20
Grease, etc	506.46	Total	1,887,293.66
Machinery	4,678.43	Total for same quarter in 1893	2,306,896.13
Metals (iron, steel, and manufactures)	15,077.96		
Oils	3,708.66	Decrease	419,602.47
Stone (marble, granite, etc.)	294.66		

TUNSTALL.

Beer, ale, stout, etc	$809.52	Skins, hides, furs, etc	$450.15
China clay	1,210.30	Stationery	549.92
Colors, paints, and varnishes	1,601.08	All other articles	1,479.41
Elastic	496.38	Total	709,147.39
Glass, china, and earthen ware	700,770.94	Total for same quarter in 1893	1,216,919.65
Hardware	1,138.76		
Paper and paper hangings, etc	452.59	Decrease	507,772.26
Silks	188.34		

Exports to United States from the United Kingdom during June quarter—Continued.

SUMMARY.

Articles.	Value.	Articles.	Value.
Animals	$36,928.59	Matches	$1,610.23
Antimony	68,673.11	Mustard	55,200.16
Artificial flowers	5,793.46	Oils	105,212.26
Bags and bagging	123,392.94	Ores (iron, etc.)	8,405.42
Beer, ale, stout, etc	318,128.83	Paper and paper hangings, etc	88,694.64
Blacking	5,839.95	Paper stock	298,816.36
Books, prints, engravings, etc	339,742.81	Perfumery	11,488.95
Bricks and tiles	27,445.28	Pitch and tar	63,456.21
Bristles	14,252.73	Plumbago	3,190.15
Brushes	8,004.63	Precious stones	663,286.40
Burlaps	1,005,209.23	Preserves, pickles, etc	81,079.41
Buttons	5,038.55	Provisions (cheese, bacon, etc.)	73,252.86
Card clothing	23,732.89	Rice	24,815.82
Carpets and rugs	85,172.20	Rope	7,062.61
Cement	372,414.60	Rubber:	
Chalk	10,299.32	Raw	312,624.31
China clay	108,414.53	Clothing and manufactures	15,169.81
Clocks and watches	4,075.51	Saddlery	62,389.36
Coal and coke	249,392.97	Salt	81,275.40
Cocoa and chocolate	56,145.97	Sausage casings	27,391.27
Coffee	426,442.19	Scientific and other instruments	23,079.41
Colors, prints, and varnishes	105,870.70	Seeds, plants, etc	38,695.58
Confectionery	14,977.69	Shellac	86,942.88
Cotton	37,137.51	Shells	131,441.02
Manufactures	1,302,483.99	Silks	303,337.35
Cutlery	31,874.02	Soaps	61,006.16
Cycles	47,361.68	Skins, hides, furs, etc	1,954,544.24
Drugs, chemicals, dyes, etc	2,318,829.58	Spices	203,958.21
Elastics	70,632.42	Sponges	23,670.05
Emery and polishing powders	7,388.97	Stationery	34,820.68
Feathers	144,968.64	Sticks and canes	6,476.91
Fish	44,807.63	Straw:	
Floor cloth	51,042.75	Plait and braids	99,294.52
Fruits, nuts, and vegetables	504,162.26	Manufactures	4,203.76
Fuller's earth	24,732.47	Stuff goods	554,497.91
Furniture	31,861.56	Stone (marble, granite, etc.)	102,454.78
Glass, china, and earthen ware	778,443.18	Sugar	195,827.10
Gloves, hosiery, etc	57,647.72	Tea	184,230.88
Glue and gelatin	100,199.68	Thread	113,943.64
Grease, etc	83,293.03	Tin	601,890.12
Gums	72,340.26	Tin plates	3,488,875.67
Hair (cattle, etc.)	65,037.35	Tobacco, cigarettes, etc	15,354.10
Hardware	48,993.34	Unions	29,423.74
Hats and felt	15,040.35	Wearing apparel	38,388.63
Hemp, flax, and tow	475,701.31	Wines and spirits	138,569.87
Indigo	95,483.30	Woods	47,922.17
Ivory	49,988.57	Wool, camel hair, etc	553,674.91
Jute	64,547.25	Woolens	726,088.06
Lace	793,246.13	Works of art	65,222.53
Leather, etc	134,456.10	Yarn	38,176.84
Linens	1,929,789.64	All other articles	323,197.06
Linseed	271,203.31	Total	26,332,664.79
Machinery	181,391.55	Total for same quarter in 1893	42,382,982.97
Metals:			
Iron, steel, and manufactures	782,842.92	Decrease	16,050,318.18
Other	126,117.23		

PATRICK S. COLLINS,
Consul-General.

LONDON, *August 1, 1894.*

TURKEY.

Exports to United States during June quarter.

Articles.	Beirut.	Constantinople.	Jerusalem.	Smyrna.	Total.
Carpets and rugs	$110.26	$123,546.16		$32,267.40	$155,923.82
Emery stone				2,101.00	2,101.00
Embroideries		1,120.15			1,120.15
Glassware	396.00				396.00
Gum tragacanth		6,643.32			6,643.32
Guts (sheep)		1,102.06			1,102.06
Licorice root	179,228.89			82,860.80	262,089.69
Meerschaum (crude)		3,673.12			3,673.12
Mohair		47,358.24			47,358.24
Mother-of-pearl goods			$5.60		5.60
Nuts (walnut)	280.02				280.02
Olive oil	821.76				821.76
Olive-wood goods			852.41		852.41
Opium		113,995.24		55,113.96	169,109.20
Oriental articles and bazaar goods	1,115.17	9,741.38			10,856.55
Otto of roses		15,693.40			15,693.40
Raisins				15,973.76	15,973.76
Roans		2,438.92			2,438.92
Rubber waste		486.46			486.46
Seed (canary, millet, fennel)		19,624.29			19,624.29
Skins (goat)		7,229 46			7,229.46
Slippers		2,089.20			2,089.20
Soap (castile)	1,703.29				1,703.29
Spoons, wooden	54.45				54.45
Sundries	110.71	3,191.04		5,642.56	9,544.31
Tobacco	90.70	1,253.94			1,344.64
Wine			46.30		46.30
Wool	17,888.91	5,791.01		21,901.00	45,580.92
Total	201,800.16	365,577.39	904.31	215,860.48	784,142.34

NOTE.—No reports were received from Bagdad or Sivas.

LUTHER SHORT,
Consul-General.

CONSTANTINOPLE, *August 9, 1894.*

WEST INDIES.

Exports to United States from Cuba during June quarter.

BARACOA.

Articles.	Value.
Bananas	$401,698.40
Cocoanuts	26,814.95
Sundries	520.40
Total	429,033.75

Exports to United States from Cuba during June quarter—Continued.

CARDENAS.

Articles.	Value.	Articles.	Value.
Beeswax	$197.60	Sugar	$4,089,431.07
Honey	3,494.88	Total	4,186,447.04
Molasses	93,323.49		

CIENFUEGOS.

Articles.	Value.	Articles.	Value.
Beeswax	$29,963.83	Molasses	$29,405.07
Cigars and cigarettes	453.28	Sugar	3,632,494.24
Fruit	37.04	Tobacco (leaf)	108,765.04
Honey	1,592.65	Total	3,802,846.45
Lancewood spars	135.30		

GIBARA.

Articles.	Value.	Articles.	Value.
Beeswax	$1,280.54	Mahogany wood	$5,624.16
Bananas	265,374.71	Sugar	174,989.25
Cedar wood	3,672.42	Sirup	414.56
Fruit	950.00	Total	457,154.21
Hides	1,615.46		
Honey	3,233.11		

GUANTANAMO.

Articles.	Value.
Mahogany wood	$898.00
Sugar	1,338,566.85
Total	1,339,464.85

HABANA.

Articles.	Value.	Articles.	Value.
Asphaltum	$1,218.01	Horns	$534.75
Beeswax	2,628.18	Lancewood spars	8,628.65
Birds	3,018.07	Metals:	
Bones	5,215.39	Old gold and silver	2,870.60
Cigars and cigarettes	568,956.83	Old copper, brass, iron, etc	23,859.19
Dyewood	230.44	Molasses	407,984.38
Fruit	468,995.67	Sugar	3,251,571.16
Glycerin (crude)	2,060.58	Sponges	8,486.89
Hides	10,908.09	Sundries	8,973.42
Hair (raw)	450.78	Tobacco (leaf)	1,794,657.03
Hide clippings	3,134.50	Total	6,574,558.24
Hoofs	173.63		

MANZANILLO.

Articles.	Value.	Articles.	Value.
Cedar wood	$15,732.62	Mahogany wood	$682.45
Cocus wood	240.00	Sugar	729,271.56
Dagame spars	735.00	Total	748,196.88
Horses	170.00		
Lancewood spars	1,365.25		

Exports to United States from Cuba during June quarter—Continued.

MATANZAS.

Articles.	Value.
Fruit	$211.50
Molasses	102,239.70
Sugar	4,401,743.69
Total	4,504,194.89

NUEVITAS.

Articles.	Value.	Articles.	Value.
Beeswax	$4,282.04	Molasses	$58,721.91
Cedar wood	28,123.18	Sugar	218,610.45
Hides	2,589.82	Total	315,824.58
Honey	3,497.18		

SAGUA LA GRANDE.

Articles.	Value.
Molasses	$17,415.61
Sugar	2,792,582.32
Total	2,809,997.93

SANTA CRUZ.

Articles.	Value.	Articles.	Value.
Cedar wood	$68,736.98	Mahogany wood	$25,654.89
Honey	480.00	Total	125,717.12
Logwood	30,845.25		

SANTIAGO DE CUBA.

Beeswax	$2,306.12	Lignum-vitæ	$3,640.92
Cigars and cigarettes	170.62	Molasses	3,605.07
Cedar wood	4,318.82	Mahogany wood	9,624.04
Fruit	54.05	Palm leaf	1,589.01
Hides	910.17	Sugar	454,348.68
Honey	794.89	Total	521,863.31
Iron ore	40,019.25		
Lancewood spars	481.67		

TRINIDAD DE CUBA.

Coffee	$306.25	Sugar	$442,730.62
Honey	1,061.56	Total	444,159.89
Mahogany wood	61.46		

Exports to United States from Cuba during June quarter—Continued.

ZAZA.

Articles.	Value.
Cedar wood	$35,333.13
Molasses	10,006.59
Sugar	183,200.45
Total	228,540.17

SUMMARY.

Articles.	Value.	Articles.	Value.
Asphaltum	$1,218.91	Honey	$14,154.27
Beeswax	40,658.31	Horses	170.00
Birds	3,018.04	Iron ore	40,019.25
Bones	5,215.39	Lancewood spars	10,610.87
Bananas	667,043.11	Lignum-vitæ	3,640.92
Cigars and cigarettes	569,580.73	Logwood	30,845.25
Coffee	306.25	Metals:	
Cedar wood	155,917.15	Old gold and silver	2,870.60
Cocoanuts	26,814.95	Old copper, brass, iron, etc	23,859.19
Cocus wood	240.00	Molasses	722,701.82
Dyewood	230.44	Mahogany wood	42,545.00
Dagame spars	735.00	Palm leaf	1,589.01
Fruit	470,248.26	Sugar	23,520,616.83
Glycerin (crude)	2,060.58	Sponges	8,488.89
Hides	16,023.54	Sundries	9,493.82
Hair (raw)	450.78	Sirup	414.56
Hide clippings	3,134.50	Tobacco (leaf)	1,903,422.07
Hoofs	173.63	Total	28,299,075.80
Horns	534.75		

NOTE.—Sugar (included in the summary) valued at $1,811,076.49, was exported from San Juan de los Remedios.

RAMON O. WILLIAMS,
Consul-General.

HABANA, *June 30, 1894.*

Exports to United States from Danish West Indies during June quarter.

Articles.	St. Thomas.	Christiansted (St. Croix).	Fredericksted (St. Croix).	Total.
Bay oil	$64.93			$64.93
Bay rum	1,440.82			1,440.82
Bay spirit	95.82			95.82
Bottles (empty)		$5.39		5.39
Brandy	1,162.42			1,162.42
Molasses			$1,022.77	1,022.77
Rum	454.58	305.16	2,316.77	3,076.51
Skins (goat)	396.81			396.81
Sugar		33,714.53	258,748.35	292,462.88
Vanilla beans			10,463.52	10,463.52
Whisky	1,538.25			1,538.25
Total	5,153.63	34,025.08	272,551.41	311,730.12

J. H. STEWART.
Consul.

ST THOMAS, *July 2, 1894.*
No. 168——9.

TEA CULTURE IN JAPAN.

I have the honor to submit the following report regarding the cultivation and manufacture of tea in the provinces of Kiushiu, furnished to me through the courtesies of the governors of various districts.

FUKUOKU KEN.

The product was 2,450,000 catties.* Tea is usually planted on hillsides, rarely on level ground. The plant is mostly of natural growth, but the ground is cultivated twice a year—in spring and in autumn. Manure is used only on the level ground. The manufactured tea consists of the lowest class. The leaves are dried in an iron pan. A small quantity of good, green, and black tea is produced. The export, in 1893, amounted to 1,650,000 catties, of an average price per picul of 10 yen.† The places of export were Nagasaki, Kobé, and Yokohama.

OITA KEN.

The product was 356,959 catties, viz: Best fine tea, 6,115 catties; green tea, 227,717 catties; leaves manipulated in iron pan, 93,110 catties; black tea, 5,000 catties; common tea, 25,017 catties.

KAGOSHIMA KEN.

The product was 1,250,000 catties. No manure is used in the cultivation, and the growth is natural. At certain seasons, grasses that hurt the plant are removed.

Tea was formerly manufactured by very simple methods, but great improvements have been made since the spring of 1893. The course of manufacture is now as follows: (1) The leaves are stirred, as in the ordinary method; (2) tested over a fire in an iron pot and separated; (3) rubbed and rolled transversely; (4) rubbed and rolled in test jars; (5) stirred up to dry; (6) carefully and fully dried; (7) sorted, by sifting with different sieves, and prepared for market.

NAGASAKI KEN.

Tea cultivation in this ken is conducted as follows: On inclined ground, the tea is planted in furrows, but on level ground, the plants are grown separately. The space between each row is about 3½ feet. On the hillside, it is planted in rows, but on the plain, near houses, circularly. After the first and second leaves are picked, the branches are cut with shears. The object in cutting is mostly to make the plant round or semicircular. Formerly, the plant was cut down nearly to the ground every three years.

The ground is cultivated three or four times in the spring, summer, and autumn. The grasses are cut and manure applied twice a year—in spring and in autumn. For manure night soil, green weeds, accumulated soil, oil cakes, and fish are used. These manures are used only for plants near people's residences; for those on the hillsides, weedings are performed twice a year—in spring and in autumn—and the weeds are used as manure.

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* 1 catty = 1.31 pounds. † 1 picul = 133⅓ pounds.

The season for gathering first tea buds or leaves begins on the 1st or 2d of May, but, in some localities, first leaves are gathered about the 20th of May. Second buds or leaves are generally allowed to grow, unless the market price is very high or the first leaves gathered are found much less than usual. In the vicinity of Omura and Hirado, however, they gather both first and second leaves. In picking leaves for the best tea, three tender leaves are picked together; for the middle and lower classes of tea, five leaves are picked at once; and for the lowest, all the young leaves are gathered.

For picking leaves, women are usually employed. The average quantity of the three leaves picked by a woman is from 10 to 13 catties a day, and her wages are from 4 to 5 sen for picking 6¼ catties. For picking five or more leaves, the daily quantity for a woman is about 31¼ catties, and the wages per 6¼ catties are 2 to 2½ sen.*

The manufacture was formerly conducted in two ways, viz: By drying in an iron pan or in the sun; then drying in paper utensils was introduced, and more recently, drying in bamboo baskets came into vogue. The method of drying in the iron pan is still extensively used. For manufacturing black tea, the Indian method was formerly used, but at present the Chinese method is adopted.

For sorting tea leaves, heated in paper utensils, round and square sieves are used, and for rolling utensils either case or bag is used.

Night soil, oil cake, dried fish, green grass, and weeds are considered the best manure for tea plants.

The hours of labor are from 5 a. m. till 6 p. m. The daily product per day per man is as follows: With the iron pan, about 30 catties; with the paper utensil, about 20 catties; with the bamboo basket, about 45 catties. The women are employed only at steaming the tea leaves, and are paid only half the rate paid men.

When the manufacturing season arrives, the workmen are hired daily, the farmers helping each other. In Omura, contracts are made beforehand by advancing money about January or February.

For renting a tea field, the landlord lends to his tenants without fixing the term, it being customary to rent the fields after the tea is planted. The rent standard is rice, at the rate of 1½ to 2 bushels per one-fourth of an acre (300 tsubo) for the first three or four years after planting. Wheat or beans are sometimes used in place of rice. The rent is somewhat increased from the fifth year. In lieu of rent, the landlord sometimes takes half of the crop.

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* 100 sen=1 yen. The consul estimates the yen at 57.6 cents.

RECAPITULATION.

Tea manufactured from April to December, 1893.

District.	Quantity.		Value per picul.*
	Bales.	*Catties.*†	*Yen.*
Kumamoto ken	4,705	432,860	8.25
Fukuoku ken	5,315	488,980	8.55
Oita ken	266	25,270	8.15
Saga ken	1,082	110,364	11.50
Nagasaki ken	955	90,725	8.35
Total	12,323	1,148,199	

*1 picul=133⅓ pounds. †1 catty=1.31 pounds.

Whither exported.

To—	Quantity.		Value per picul.
	Bales.	*Catties.*	*Yen.*
United States	862	84,478	12.50
Tien-Tsin (China)	9,526	876,394	7.55
Kobé (Japan)	1,249	123,451	11.80
Total	11,637	1,084,323	

W. H. ABERCROMBIE,
Consul.

NAGASAKI, *May 12, 1894.*

BOMBAY-AMERICAN TRADE.

The Standard Oil Company, of New York, has established a good footing, and, at the present time is doing over one-half of the petroleum business of Bombay; ultimately, it may control the entire petroleum market of western India. This necessitates the chartering of vessels to transport the oil to Bombay. By a direct line of steamers, our merchants could import, at greatly reduced rates, the valuable oilseeds and vegetable oils, spices, raw wool, and Indian curios and furniture, in which the trade has enormously increased in the past six months (1893–'94), especially in curios and furniture. Machinery, cotton goods, and raw cotton could be exported to India direct at reduced rates, which would open a large market, there being a demand for American cotton goods and machinery. Two-thirds of the American produce sent to Bombay is first sold to English merchants, who resell the goods to Bombay merchants, and, in the Government reports, these American goods are termed "imports from the United Kingdom." The same is true of the exports to the United States via England. This, of course, increases the selling price at both ends.

A line of steamers could be made to pay by having one steamer per month each way, the outward-bound steamer to carry a cargo of petroleum, cotton goods, machinery, etc. The Standard Oil Company (of New York), in Bombay, will take at least one full cargo of kerosene oil per month, by direct steamer to Bombay, for nine months in the year, at current rates of freight.

Until a full cargo for the United States could be had, the following should be the course of steamers returning to the United States: Leave Bombay with 300 to 500 tons of seeds, vegetables, oils, curios, furniture, etc.; call at Ceylon and load with various Indian products, or at Karachi, where wool may be taken; thence to Aden and load with coffee, dates, figs, etc. In addition to the above, part cargo might be composed of seeds, etc., for Mediterranean ports and reload for New York. Calcutta also could be utilized, it being the principal port of export to the United States from India.

The tea-planters of Ceylon have combined to make an effort to introduce their teas and coffee into the United States. This would also help the proposed line.

Large quantities of licorice root are exported from the Persian Gulf; these find their way to New York via England.

Value of articles imported into Bombay from the United States.

Articles.	1888–'89.	1889–'90.	1890–'91.	1891–'92.	1892–'93.
Apparel	$664.54	$1,298.88	$2,550.24	$1,135.40	$2,917.35
Boots and shoes	....	25.56	....	....	7.20
Books and printed matter	5,019.20	4,163.04	3,235.32	954.43	3,853.44
Chemical products	406.08	21.96	991.80	1,826.72	2,733.21
Clocks and watches	28,373.44	24,800.04	39,460.68	24,504.68	24,868.62
Cotton goods:					
Gray (unbleached)	175,466.56	125,872.56	169,989.12	144,224.86	85,306.50
Other sorts	11.84	2.52	19.44	157.64	4.66
Cigars	690.56	2,749.68	1,384.20	1,087.80	3,930.12
Manufactured tobacco	42,951.36	42,134.76	38,119.68	30,069.70	25,348.41
Glass and other ware	....	....	....	7,139.16	4,532.22
Hardware and cutlery and plated ware	15,598.80	10,990.80	9,164.52	10,462.48	8,265.51
Spirits:					
Used in drugs, etc., in proportion of less than 20 per cent	1,433.60	....	3,839.04	1,375.04	2,161.35
Used in drugs, etc., in proportion of 20 per cent and up	....	....	16,383.96	6,683.84	10,646.91
Perfumed	351.04	.36	2,915.28	1,274.56	1,135.35
Oils:					
Animal	....	....	....	....	98.32
Essential	....	.72	....	....	....
Kerosene	367,340.48	541,049.04	364,335.48	174,903.12	279,842.31
Other	5,026.24	9,518.60	4,369.32	23,558.32	24,574.59
Cheese	....	34.60	....	....	....
Flour	....	....	18.00	....	....
Miscellaneous provisions	872.96	3,000.32	3,017.52	3,710.50	1,138.05
All other articles:					
Unmanufactured	302.72	122.76	645.12	854.28	1,048.14
Manufactured	9,972.16	11,078.64	16,522.92	8,984.86	12,326.93

Quantities of articles imported into Bombay from the United States.

Articles.	1888–'89.	1889–'90.	1890–'91.	1891–'92.	1892–'93.
Boots and shoes……pairs…	……	11	……	……	6
Books and printed matter……cwts…	94	52	99	35	93
Clocks and watches……number…	14,925	13,601	22,812	17,196	15,337
Cotton goods:					
Gray (unbleached)……yards…	2,528,800	2,062,351	2,175,000	2,646,400	1,494,050
Other sorts……pounds…	15	8	66	550	23
Cigars……do……	541	1,973	1,302	1,570	5,860
Manufactured tobacco……do……	189,753	142,287	152,805	149,056	131,142
Spirits:					
Used in drugs, etc., in proportion of less than 20 per cent……gallons…	560	……	868	457	668
Used in drugs, etc., in proportion of 20 per cent and up……gallons…	……	……	1,523	571	1,012
Perfumed……do……	55	……	154	67	32
Oils:					
Animal……do……	……	……	……	……	17
Kerosene……do……	2,212,212	2,961,728	2,054,788	1,251,168	2,239,903
Other……do……	8,081	42,061	5,907	79,602	91,117
Cheese……pounds…	……	105	……	……	……
Flour……do……	……	……	360	……	……
Provisions (miscellaneous)……cwts…	88	235	149	339	82

Value of articles exported from Bombay to the United States.

Articles.	1888–'89.	1889–'90.	1890–'91.	1891–'92.	1892–'93.
Hides……	$5,498.24	……	$10,080.00	……	……
Skins:					
Raw……	……	……	……	$3,640.00	……
Tanned……	2,727.68	……	240.12	87.08	……
Ivory (unmanufactured)……	5,313.28	$1,639.08	……	……	……
Iron……	34,144.00	89,430.00	……	……	……
Perfumery……	……	495.00	……	2,915.60	……
Cloves……	3,200.00	15,681.60	……	……	……
Nutmegs……	344.96	……	……	……	……
Furniture and cabinet ware……	773.20	218.44	2,203.44	2,631.23	$21,708.81
Earthenware and porcelain……	……	16.20	97.92	167.04	6,258.06
Jewelry……	56.00	……	……	……	19,636.02
Plate……	……	480.24	478.44	117.60	87.78
Brass ware……	218.72	57.14	356.40	128.80	10,295.64
Copper ware……	……	57.60	……	……	16.90
Essential oils……	……	252.00	……	760.00	3,321.00
Seeds:					
Mustard……	1,920.00	2,754.50	7,672.32	7,274.00	5,470.20
Miscellaneous……	……	……	……	……	32.40
Toys and games……	2,336.96	2,553.12	770.60	1,468.88	10,024.56
Wool:					
Raw……	3,325.44	1,542.24	……	267.30	……
Manufactured……	2,600.32	1,946.88	2,385.36	1,570.80	24,171.38
Miscellaneous articles:					
Unmanufactured……	1,163.20	1,533.62	1,982.88	50.68	3,028.83
Manufactured……	3 661.44	3,253.68	3,602.88	3,045.03	11,105.10
Total……	86,573.44	56,749.11	30,654.87	30,869.76	119,522.82

Quantities of articles exported from Bombay to the United States.

Articles.		1888-'89.	1889-'90.	1890-'91.	1891-'92.	1892-'93.
Hides (raw)	number	6,240		8,000		
Do	cwts	645		1,000		
Skins:						
Raw	number				8,655	
Do	cwts				323	
Dressed	number	7,080		527	225	
Do	cwts	63		5	3	
Ivory	pounds	2,175	524			
Ironware	cwts	96,400	43,000			
Cloves	pounds	28,000	170,688			
Nutmegs	do	750				
Brass ware	cwts	5		5	3	111
Copper ware	do		1			
Oils (essential)	gallons		11		46	210
Seeds:						
Mustard	cwts	900	885	2,671	3,300	2,531
Miscellaneous	do					20
Raw wool	pounds	25,528	11,424		2,016	
Shawls	number				13	
Manufactures (miscellaneous)	pounds	4,547	2,225	3,627	3,193	35,816

Value of imports from the United States into the ports of Bombay, Karachi, and Cochin from 1882-'83 to 1892-'93.

Years.	Merchandise.	Treasure.	Total.
1882-'83	$693,451.75		$693,451.75
1883-'84	480,061.00		480,061.00
1884-'85	597,239.25		597,239.25
1885-'86	739,212.00	$1,488,271.25	2,227,483.25
1886-'87	749,126.50	1,585,161.00	2,334,287.50
1887-'88	Not given.	Not given.	Not given.
1888-'89	654,507.20	2,882,318.08	3,536,825.28
1889-'90	801,883.08	673,428.00	1,481,311.08
1890-'91	676,961.64	171,116.00	848,077.64
1891-'92	443,858.24	1,590,960.00	2,034,818.24
1892-'93	494,730.99	85,050.00	579,780.99

Number of vessels entered and cleared from and to the United States at the port of Bombay.

Years.	Entered.				Cleared (sailing).	
	Sailing.		Steam.			
	No.	Tons.	No.	Tons.	No.	Tons.
1888-'89	3	4,798	3	1,427	2	3,292
1889-'90	4	6,318	3	5,054	1	1,563
1890-'91	3	5,204	3	5,850		
1891-'92	2	2,537	1	1,638		
1892-'93	3	5,642	2	2,392		

ADEN-AMERICAN TRADE.

The exports from Aden to the United States, in 1892, amounted to 4,449.6 tons, valued at $1,693,171, and in 1893, to 4,744.3 tons, valued at

$1,901,763. The imports at Aden from the United States amounted to 5,884 tons, valued at $461,974, in 1892, and to 6,752 tons, valued at $558,387, in 1893.

The navigation between Aden and the United States comprised 9 steamships, of 15,745 tons, entered, and 10 steamships, of 15,315 tons, cleared, in 1892; and 20 steamships, of 30,120 tons, and 1 sailing vessel, of 1,323 tons, entered, and 7 steamships, of 11,577 tons, cleared, in 1893.

CEYLON-AMERICAN TRADE.

Exports from Ceylon to the United States.

Articles.	Quantity.	Value.
Cardamoms … pounds	2,604	$1,462
Cassia … do.	1,626	80
Cinchona … do.	1,173,533	70,245
Cinnamon … do.	79,000	10,411
Citronella oil … cwts	962	42,516
Cocoa … do.	5,705	237,998
Cocoanut oil … do.	144,000	746,139
Coffee … do.	304	8,450
Coir … do.	12,090	59,919
Copra (prepared) … pounds	290,380	35,043
Curios … packages	3	197
Desiccated cocoanut … pounds	207,020	16,280
Essential oils … ounces	2,549,000	35,692
Medicinal seeds … pounds	17,600	4,763
Horns and hides … cwts	222	509
Pine shoots … cases	4	29
Plants … do.	2	100
Plumbago … tons	10,988	869,766
Precious stones … parcels	3	70
Senna … pounds	287,340	13,282
Tea … do.	196,403	45,506
Sundries … packages	15	348
Total		2,198,817

The total quantity and value of exports to the United States from Bombay, Aden, and Ceylon in 1892–'93 were:

Port.	Quantity.	Value.
	Tons.	
Bombay	2,000	$119,522.18
Aden	6,732.6	1,901,763.00
Ceylon	13,828.7	2,198,817.00
Total	22,561.3	4,220,102.18

H. J. SOMMER, JR.,
Consul.

BOMBAY, *May 5, 1894.*

EMIGRATION FROM NORWAY.

The total emigration from Norwegian ports in 1893 was 25,262 (an increase of 3,436 over the previous year), 18,778 being Norwegians. The latter number, compared with that for 1892, shows an increase of 1,729 persons.

The following tables contain the official reports for the year 1893, compared with those of the four preceding years:

Total number of Norwegian emigrants.

From—	Men.	Women.	Total.
Rural districts	8,706	5,090	13,796
Cities	2,530	2,452	4,982
Total	11,236	7,542	18,778
1892	10,119	6,930	17,049
1891	7,784	5,557	13,341
1890	5,878	5,113	10,991
1889	7,076	5,566	12,642

Age of Norwegian emigrants in 1893.

Age.	From rural districts.	From cities.	Total.
Up to 15 years	2,005	905	2,910
15 to 30 years	9,150	2,864	12,014
30 to 65 years	2,506	1,166	3,672
65 years and above	116	40	156
Age not given	19	7	26

Besides the 18,788 Norwegians, persons of other nationalities were represented in the emigration through Norwegian ports as follows: Swedes, 5,707; others, 777.

The emigrants embarked at the following ports:

Ports.	1893.	1892.	1891.	1890.	1889.
Christiania	10,623	10,262	7,632	6,735	7,737
Christiansand	2,899	2,133	1,731	1,391	1,254
Stavanger	1,834	1,827	1,331	1,340	1,144
Bergen	1,835	2,009	1,451	1,009	1,302
Drontheim	6,770	4,429	3,305	2,219	3,297
Other ports	1,301	1,166	977	674	822
Total	25,262	21,826	16,427	13,368	15,556

LAURITZ F. BRONN,
Vice-Consul.

CHRISTIANIA, *June, 1894.*

NOTES.

American Vehicles for Germany.—Consul Tingle writes from Brunswick, July 10:

It is a matter worthy of observation in Germany that while the roads, even in remote country districts, are the best in the world, being well-nigh perfect, the vehicles which travel them are very nearly the worst to be seen in any country where farms are so well cultivated and where the people are so fond of outdoor life. With the exception of the heavy draft horses used by brewers and transfer companies, the horses are, for the most part, very small, and apparently quite unequal to the burdens imposed upon them. Given, then, magnificent roads and undersized horses, it is odd that the Germans should not have evolved lighter work and pleasure vehicles. They have not done so, however, and here it is that there appears an opportunity for wide-awake American manufacturers of farm and road wagons to extend their trade.

The German farm wagon is not only heavy and cumbersome, but it is very crude. Briefly, it consists of wide sideboards, forming a triangular trough mounted on wheels, and without springs. The German farmer's grandfather used that kind of wagon; he has never seen any other, and therefore he uses it also. He is heedless of the fact that there exist other wagons just as cheap, capable of carrying twice as much, and not half as wearing on the animals which pull them. Such a thing as the light two or four seated American farm wagon to be used for reaching market speedily is not known, though on the splendid German roads it would be extremely practical. The ordinary stout and capacious wagons, of which there are so many well-known makes in the United States, are also unknown.

The case is the same with pleasure vehicles of the highest class. Of course, reference is not made to the large cities like Berlin, Hamburg, Dresden, and their surroundings, but to the smaller cities, towns, and their neighborhood. It is true that comparatively recently German manufacturers have been making a kind of four-seated T cart, modeled on the English vehicle, but it is heavy and cumbersome. The light village cart, dogcart, or driving buggy is not seen, and this despite the fact that an undoubted demand exists for a vehicle easily pulled and cheap. The American side-bar buggy, for example, is just the thing for the smooth roads and the undersized horses which characterize Germany. The German is not slow to recognize a good thing when he sees it, and I believe, therefore, that, should these various vehicles once be brought to his notice, their introduction would be accomplished easily.

Of course, the difficulty arises as to the method of bringing the articles to the attention of possible purchasers. The large commission houses in Hamburg, which are usually the medium through which American merchants or manufacturers seek to introduce their goods, are apt to be indifferent, or, if not indifferent, are not inclined to spend their money in introducing a new article. The best way of introducing such vehicles would be by concerted action on the part of several manufacturers of different kinds of vehicles and sending a German-speaking agent for the purpose of personally visiting the towns. Such an agent could not only establish agencies, but could demonstrate practically with samples the superiority of the American goods. It would, perhaps, be necessary in shipping to send the product over in a more or less rough form, that is to say, unpainted or unpolished, having that portion of the work done over here, for the reason that the German tariff discriminates heavily against the completely finished article. The freight rates from New York to Hamburg by steamer are $1.20 per 100 pounds, but by sailing vessel are, of course, much less. The tariff rates are as follows: Wagons, two or more wheeled, and sleighs, rough and unpainted, 36 cents per 100 pounds; colored, polished, or painted, $1.20 per 100 pounds; farm wagons, rough and unpainted, 36 cents per 100 pounds. The painting and finishing could be done over here even cheaper than at home, and the article could be put upon the market for very nearly if not the same price asked for the heavy, inelegant, and cumbersome German article.

The opening is one well meriting the attention of American dealers and manufacturers.

Rose Industry of Luxemburg.—Vice-Commercial Agent Murphy writes from Luxemburg, June 26:

The cultivation of roses in the vicinity of the city of Luxemburg is an industry of considerable importance, the soil and climate of the Grand Duchy being very favorable to the development and growth of the finest variety of roses. There are three large and a dozen small gardening establishments devoted to the cultivation of rose plants, giving employment to 100 persons throughout the entire year and to 300 persons during three or four summer and autumn months.

The total area planted with roses is about 200 acres, a clayey soil being preferred. The fertilizer used is horse manure. The plants are cultivated partly in open fields and partly in hothouses, those destined for field culture being set out in March and April. The plants are protected in the winter either by being taken up with their roots and stored in cellars, or by simply being bent flat to the ground and entirely covered with earth in the fields. Low plants are raised from seedlings; high plants are obtained by inserting grafts upon wild-rose stocks. New varieties are obtained by means of artificial fructification. In the hothouses, plants are grafted; in the open fields, they are budded. It is said in Luxemburg that though in the United States the preference is given to roses having ungrafted stocks, those with grafted stocks are cheaper and better. In Luxemburg, hybrid as well as tea roses are cultivated, the preference being given to the former in northern countries and to the latter in southern countries. Large numbers of Luxemburg rose plants are sent every year to the United States.

French Flour in the United Kingdom.—Consul Lathrop writes from Bristol, July 17:

The new fiscal arrangements established in France early in the year with regard to the duty on wheat and on flour are already beginning to have an effect on the export of flour, which seems likely to be very far reaching and to have an important influence on American shipments of flour to the United Kingdom. It will be remembered that the duty on wheat and flour was considerably increased by France, the avowed object being to make the country self-supporting and to increase production to such an extent as to prevent the introduction of foreign growths. The result of this policy, which, perhaps, was not foreseen by the French Government, is now observable in a vigorous and determined effort on the part of the French millers to supply the British market with flour. All grades, from "Red Dog" up to a product which will compare well with the finest American winter patents, are being vigorously pushed at prices which at the present moment (July 18), grade for grade, are 1*s.* (24 cents) per sack (240 pounds) cheaper than American. Their best grades are beautiful in color, resembling the Oregon flour, so much admired here; but they can not compete in strength, and will not bake up into so heavy a loaf. It is generally assumed that the flour is made from imported wheats, and that the drawback upon reëxportation in the shape of flour is so regulated as really to amount to a considerable bounty. If this be the case (and it is difficult otherwise to account for the dimensions already attained by the trade), it is evident that our American flour will have to meet an energetic, organized, and bounty-fed competition. It is also believed that there is a combination among the French millers to limit domestic sales, thus maintaining domestic prices. The result of such a policy, taken in connection with the payment of a drawback, is certain. Large surplus stocks will be dumped into the United Kingdom, at a loss if need be. I hope to follow this preliminary report with another in the near future which shall give fuller particulars.

Mildew in Vineyards.—Consul Germain writes from Zurich, June 29:

The authorities of all the Swiss cantons try in every possible way to promote the agricultural interests of Switzerland. If late spring frosts or hailstorms injure growing crops, the Government, where found necessary, indemnifies farmers with moneys appropriated for such purposes, and thus helps them bridge over unprofitable seasons. On the other hand, laws are passed and put into execution compelling every landowner to protect his crops from pests and mildew. Thus the cantonal authorities of Zurich, to remind farmers of their lawful duties, on June 1 published the following:

"The commissioners of agriculture request owners of vineyards to immediately comply with the cantonal law prescriptions adopted May 9, 1890, which provide for the preservation of vineyards and the spraying of vines to protect the same against mildew. Past experience from trials made in this, as well as in other wine-producing countries, has demonstrated that the best time for spraying and the best results obtainable are when it is done in the period immediately preceding blooming time. All vineyards will be visited and inspected by the respective local commissioners during the second half of June, and those found derelict will be fined according to law, and the spraying will be ordered done at the expense of the vineyard-owner. The commissioners will also order a second spraying if found necessary."

As to the material to be used for spraying, the commissioners prescribe the following:

(1) "Bordeaux solution" (so called from having first been used at Bordeaux), prepared as follows: Dissolve 3 kilograms (1 kilogram = 2.2046 pounds) of vitriol in 50 liters (1 liter = 1.0567 quarts) of water, allowing the vitriol to dissolve entirely; then dissolve 3 kilograms of lime in 50 liters of water also, and mix the two compounds well, stirring same continually while spraying.

(2) Solution of blue vitriol and soda. Dissolve 2 kilograms of vitriol in 50 liters of water; also 2½ kilograms of crystallized soda, in another vessel, in 50 liters of water. Mix the two well, adding some milk of lime, also stirring the solution while spraying.

(3) Solution of 2 kilograms of vitriol, 1 kilogram of crystallized soda, and 1 kilogram of lime dissolved in 100 liters of water, well mixed and stirred, etc.

When a second spraying is ordered, continued prevailing damp weather rendering it necessary, use the solution of 3 kilograms of vitriol and 3 kilograms of soda in 100 liters of water.

To spray with any other solution than the above is unlawful, unless written consent has first been obtained from the president of the local vineyard commission.

Octogenarians in Switzerland.—Consul Germain, in a report dated Zurich, July 9, says:

In volume 3, Switzerland's census of 1888, I find that quite a number of people 80 years of age and over were still earning their daily bread. The following table will show the number of people of and over that age, their respective occupations, and the total number of hands employed:

Occupations.	People 80 years and over.	Total number employed.
Agriculturists	1,898	383,000
Horticulturists	9	5,600
Foresters	13	6,500
Fishermen	7	870
Millmen	7	5,400
Bakers	6	10,000
Butchers	8	8,000
Tailors	25	10,800
Shoemakers	36	24,000
Bricklayers	26	18,000
Carpenters	22	15,000
Cabinetmakers, joiners, and glaziers	36	18,000
Wood turners and carvers	9	1,600
Straw-braid workers	14	1,900
Silk-weavers	8	10,000
Cotton-weavers	37	8,000
Linen-weavers	15	2,900
Blacksmiths	14	7,600
Wheelwrights	12	6,400
Watchmakers	26	30,000
Bookbinders	2	2,000
Printers	55	34,000
Innkeepers	17	13,000
Clergymen	51	3,500

This shows that out of 626,070 persons employed, 2,353 were 80 years old and over, or a percentage to the whole of 0.4 per cent; and that agricultural pursuits give employment to the greatest number of aged people. It is also worth noticing that foresters live to a greater age than gardeners; that tailors number three times as many octogenarians as do the butchers; and that shoemakers have much better prospects of growing old than the bakers. A comparatively high number are found among the wood turners and carvers, and a still greater number among the hard-working and confined straw-braid workers.

Wages in Austrian Hemp Mills.—Under date of Budapest, July 23, Consul E. P. T. Hammond reports as follows, in answer to an instruction from the Department:

There are no flax mills as yet established in this consular district. There are, however, three hemp mills in operation. The per diem wages paid therein are as follows:

Workers.	Wages.	
	Florins.	*Cents.*
Day-laborers	1.00 to 1.10	40.6 to 44.7
Breakers	1.40 to 1.50	56.8 to 60.9
Hackers	1.60 to 1.80	64.9 to 73.1

The Government is about to adopt a system of retting or steeping flax and hemp, introduced by an American firm doing business in Buenos Ayres and New York. The representative of the firm in Budapest has promised to give me the particulars of the system in a little while, and I will report upon the same at the earliest moment. The system is claimed to be a new one.

Valuable Tree of New Caledonia.—Commercial Agent Le Mescam writes from Nouméa, New Caledonia, May 14:

From time to time, I have received requests from citizens of divers Southern States for seed of the niaouli tree of New Caledonia. This tree (*Melaleuoa leucodendron*) is the characteristic wood of this country. It blooms in January and June. Its wood is of a reddish color and hard; it works well, more especially for wheelwright purposes. It has a suberous or cork-like bark, and replaces cork in some of its usages. The leaves are employed for medical purposes; when distilled, they give an essence which is a powerful antiseptic. It is generally admitted that the exceptional salubrity of New Caledonia is due to the essence of this wood. The vicinity of swamps is not dangerous to health here. It is probable that the above facts are known to some residents of the United States, hence the requests for seed which have reached me. I send a small parcel of the niaouli seed to the Department of Agriculture through the United States dispatch agent at San Francisco. The seed is still mostly attached to the boughs in its pods. These should be bruised before planting. Each pod contains a large quantity of seed, which are very small and shaped like a comma. They should be sown in the spring in hotbeds of light earth, well watered at all seasons, and always kept from frost. The young plants are ready for transportation in fifteen months after sowing, when no more care is necessary in climates not subject to frost.

Customs Duties in Salvador.—Consul Pollock writes to the Department from San Salvador, July 22:

Yesterday an executive decree changing the rule of paying customs duties was published in the Diario Oficial to this effect: That whereas, heretofore 70 per cent of the duties was payable in gold and 30 per cent in silver; the ratio now is to be 50 per cent in gold and 50 per cent in silver. This, on the face of it, would seem to be an advantage, but in reality it is not, because the rate of exchange, since the decree prohibiting the importation of silver has been repealed, has gone up, and is still going up, and the value of $50 in gold is now the same as the value of $70 was before we had free silver. The new order also provides that all customs duties must hereafter be paid in cash, while heretofore the 30 per cent in silver could be paid in bonds. It is said that this rule will apply only for the time that the commission which was appointed to examine the accounts of the late administration is at work. I hope this is true, because many American merchants here have advanced money to the late Government during the recent revolution upon bonds which they expected to be redeemed in the usual way through the custom-houses, whichever side should win.

Customs Orders in Venezuela.—Consul Plumacher, of Maracaibo, under date of August 6, transmits "resolutions," or orders of the Venezuelan Executive, directing that "glutinous paste," being a prepared food, shall be scheduled in the fourth tariff class, and that "wire manufactured in the form indicated at the foot of the said resolution for fencing pastures and fields shall be introduced through the custom-houses free of duty." According to the Venezuelan tariff, as published by the Bureau of the American Republics, products scheduled in the fourth class pay a duty of 4.9 cents per pound. The articles above mentioned were not specifically provided for in the Venezuelan tariff, hence the issuing of the resolutions. The consul sent an illustration of the particular kind of fence wire mentioned, but supplied no further details.

Import Tax in Panama.—The consul-general of the United States at Panama has reported to the Department the enactment of a law by the legislature of the State of Panama, Colombia, levying a 10 per cent tax on all imports into that State. The law, before becoming operative, must be approved by the Congress of the Republic of Colombia.

Corn Crop of Mexico.—Consul-General Crittenden, Mexico city, August 1, reports as follows:

> I have received letters from various parts of the United States asking about the prospects of the corn crop in Mexico this season. Up to the 1st of July, it was thought the crop would be a failure and entail much suffering, and make further demands upon the treasury of this Government to supply the deficiency from the United States, in order to save many from starvation; but in July, heavy rains fell throughout the greater part of this Republic—even where no rains had fallen for several years—and it is now believed that more than half a crop will be grown. The railroad officials have been encouraged to hope that their business will be much improved by the late rains. The rainy season was almost two months later this year than last year. It generally sets in about the 1st of May and lasts up to October of each year.

The Parma-Spezia Railroad.—Under date of August 9, Consul-General Jones writes from Rome:

> This road was opened to traffic August 1. It is one of the most important strategic roads in Italy, putting the great naval station of Spezia in communication with the interior. The sections from Spezia to Poutremoli and from Parma to Borgotaro have been in operation for some time. The opening of the section Poutremoli-Borgotaro now completes the line. The total length of the line is 75 miles. For the present, there will be three couples of mixed trains a day, which will make the distance in four hours and twenty minutes. The road passes through one of the richest and most fertile portions of the peninsula. The cost of the road has not as yet been fully ascertained. A great deal of tunneling has been done, several tunnels being from 1¼ to 2 miles in length.

Steamship Service of Amsterdam.—Consul Downes, of Amsterdam, under date of July 17, informs the Department that the chamber of commerce of that city, dissatisfied with the present steamship facilities, has recommended the establishment of a new line of steamers direct from Amsterdam to New York.

Passport Regulations in Haiti.—Vice-Consul-General Terres informs the Department, in a report from Port-au-Prince, dated August 1, that the Haitian Government has revived the passport law of 1864, requiring identification of persons arriving in or departing from that country and the issuing of certificates as to the fulfillment of certain formalities on penalty of a fine of $500 or $1,000. Passports to leave the country are required on penalty of $300. A person leaving a foreign port to go to Haiti must obtain a passport or visa of passport from the Haitian consular agent there on penalty of a fine of $300 on arrival, the fee for passport being $1 and for visa 50 cents. A translation of the law and of the circular putting it again into force will be published in CONSULAR REPORTS for October.

Treaty Between the Argentine Republic and Italy.—Minister Buchanan, writing from Buenos Ayres, July 21, informs the Department that a treaty on the "most-favored-nation" basis has been concluded between the Argentine Republic and the Kingdom of Italy. A translation of the text of the treaty will be published in CONSULAR REPORTS for October.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of August to other Departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred
E. Schneegans, Saigon	June 16, 1894	Rice report	Department of Agriculture.
Do	June 30, 1894	do	Do.
E. P. T. Hammond, Budapest	July 4, 1894	Crops in Hungary for 1892	Do.
Allen B. Morse, Glasgow	July 17, 1894	Agricultural condition of Scotland.	Do.
Thos. E. Heenan, Odessa	July 21, 1894	Translation of a report of the work done in 1893 by the Bacteriological Society of Odessa, including prophylactic inoculations of hydrophobia.	Marine Hospital Service.
Henry C. Morris, Ghent	July 28, 1894	Condition of the crops of Belgium.	Department of Agriculture.
Chas. W. Whiley, St. Etienne	July 31, 1894	Harvest prospects in France	Do.
James B. Taney, Belfast	Aug. 2, 1894	Report of Irish land commissioners on the prevention of potato disease.	Do.
Allen B. Morse, Glasgow	Aug. 10, 1894	Agricultural condition of Scotland.	Do.
Thomas B. O'Neil, Stockholm	do	Americanist Congress at Stockholm.	Bureau of Ethnology.

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CONSULAR REPORTS.

OCTOBER, 1894.

COMMERCE, MANUFACTURES, ETC.

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DEPARTMENT OF STATE
UNITED STATES OF AMERICA.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1894.

PUBLICATIONS OF THE BUREAU OF STATISTICS.

In addition to the monthly CONSULAR REPORTS, the following works have been published by the Bureau of Statistics:

"Labor in Europe," 1878, one volume; "Labor in Foreign Countries," 1884, three volumes; "Commerce of the World and the Share of the United States Therein," 1879; "Commerce of the World and the Share of the United States Therein," 1880–'81; "Declared Exports for the United States, First and Second Quarters, 1883;" "Declared Exports for the United States, Third and Fourth Quarters, 1883." "Cholera in Europe in 1884," 1885; "Trade Guilds of Europe," 1885; "The Licorice Plant," 1885; "Forestry in Europe," 1887; "Emigration and Immigration," 1885–'86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); "Rice Pounding in Europe," 1887; "Sugar of Milk," 1887; "Wool Scouring in Belgium," 1887; "Cattle and Dairy Farming in Foreign Countries," 1888 (issued first in one volume, afterwards in two volumes); "Technical Education in Europe," 1888; "Tariffs of Central America and the British West Indies," 1890.

The editions of all these publications except the one last mentioned are exhausted.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that at length in 1890 the Department decided to publish such reports in separate form to be entitled "Special Consular Reports." There are now the following "Special Consular Reports:"

Vol. 1 (1890).—"Cotton Textiles in Foreign Countries," "Files in Spanish America," "Carpet Manufacture in Foreign Countries," "Malt and Beer in Spanish America," and "Fruit Culture in Foreign Countries."

Vol. 2 (1891).—"Refrigerators and Food Preservation in Foreign Countries," "European Emigration," "Olive Culture in the Alpes Maritimes," and "Beet Sugar Industry and Flax Cultivation in Foreign Countries."

Vol. 3 (1891).—"Streets and Highways in Foreign Countries."

Vol. 4 (1892).—"Port Regulations in Foreign Countries."

Vol. 5 (1892).—"Canals and Irrigation in Foreign Countries."

Vol. 6 (1892).—"Coal and Coal Consumption in Spanish America," "Gas in Foreign Countries," and "India Rubber."

Vol. 7 (1892).—"The Stave Trade in Foreign Countries," and "Tariffs of Foreign Countries."

Vol. 8 (1892).—"Fire and Building Regulations in Foreign Countries."

Vol. 9 (1892 and 1893).—"Australian Sheep and Wool," and "Vagrancy and Public Charities in Foreign Countries."

Vol. 10 (1894).—"Lead and Zinc Mining in Foreign Countries" and "Extension of Markets for American Flour."

Vol. 11 (1894).—"American Lumber in Foreign Markets."

Of these Special Reports "Cotton Textiles in Foreign Countries," "Files in Spanish-America," "Malt and Beer in Spanish America," "Streets and Highways," "Canals and Irrigation," and "Fire and Building Regulations" are exhausted.

The Bureau of Statistics of the Department of State will be grateful for the return of any monthly or special numbers of Consular Reports.

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Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*....	Gold and silver...	Peso........................	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†........	Gold....................	Crown..................	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium.......................	Gold and silver...	Franc..................	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil..........................	Gold....................	Milreis................	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
Chile‡..........................	Gold and silver....	Peso....................	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba............................	......do....................	......do..................	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark......................	Gold....................	Crown.................	.26,8	Gold—10 and 20 crowns.
Egypt...........................	......do....................	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland........................	......do....................	Mark....................	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France.........................	Gold and silver....	Franc..................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany......................	Gold....................	Mark....................	.23,8	Gold—5, 10, and 20 marks.
Great Britain...............	......do....................	Pound sterling.....	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece..........................	Gold and silver....	Drachma.............	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti.............................	......do....................	Gourde................	.96,5	Silver—gourde.
Italy.............................	......do....................	Lira......................	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia.........................	Gold....................	Dollar..................	1.00	
Netherlands§...............	Gold and silver....	Florin..................	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Portugal......................	Gold....................	Milreis................	1.08	Gold—1, 2, 5, and 10 milreis.
Spain............................	Gold and silver....	Peseta.................	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway...	Gold....................	Crown.................	.26,8	Gold—10 and 20 crowns.
Switzerland.................	Gold and silver....	Franc..................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey.........................	Gold....................	Piaster................	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela....................	Gold and silver....	Bolivar................	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver..............	Florin..............	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia..............	......do..............	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America...	......do..............	Peso..............	.96,5	.91,8	.91,8	.83,6	....	....
China..............	Silver..............	Haikwan tael....	1.61	1.61	....	....	....	....
Colombia..............	......do..............	Peso..............	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador..............	......do..............	......do..............	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†..............	Gold..............	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India..............	Silver..............	Rupee..............	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan..............	Gold..............	Yen..............	.99,7	.99,7	.99,7	.99,7	....	....
	Silver..............		....	....	....	....	.87,6	.86,9
Mexico..............	......do..............	Dollar..............	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡..........	Gold and silver..	Florin..............	.40,5	.38,5	.38,5	.40,2	....	....
Peru..............	Silver..............	Sol..............	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia..............	......do..............	Ruble..............	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli..............	......do..............	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver..............	Florin..............	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia..............	......do..............	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America...	......do..............	Peso..............	....	....	....	.69,9	.68	.85
Colombia..............	......do..............	......do..............	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador..............	......do..............	......do..............	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†..............	Gold..............	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India..............	Silver..............	Rupee..............	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan..............	Gold..............	Yen..............	....	....	.99,7	.99,7	.99,7	.99,7
	Silver..............		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico..............	......do..............	Dollar..............	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru..............	Silver..............	Sol..............	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia..............	......do..............	Ruble..............	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli..............	......do..............	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1891.				1892.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown	....	....	....	....	....	....	....	$0.20,3
	Silver florin	$0.38,1	$0.36,3	$0.36,3	$0.35,7	$0.34,1	$0.32,8	$0.32	....
Bolivia	Silver boliviano	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Central America	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
China†	Shanghai tael	1.13,9	1.08,5	1.08,7	1.06,8	1.02,1	.98,2	.95,8	.91
	Haikwan tael	1.27	1.20,9	1.21	1.18,9	1.13,7	1.09,3	1.06,7	1.01,3
Colombia	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Ecuador	......do	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
India	Silver rupee	.36,6	.34,9	.35	.34,3	.32,8	.31,6	.30,8	.29,3
Japan‡	Silver yen	.83,1	.79,2	.79,3	.77,9	.74,5	.71,6	.69,9	.66,4
Mexico	Silver dollar	.83,7	.80	.80	.78,5	.75	.72,2	.70,4	.66,9
Peru	Silver sol	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Russia§	Silver ruble	.61,7	.58,8	.58,8	.57,8	.55,3	.53,1	.51,9	.49,2
Tripoli	Silver mahbub	.69,5	.66,3	.66,4	.65,2	.62,3	.60	.58,5	.55,5
Venezuela ‖	Silver bolivar	.15,4	.14,7	.14,7	.14,5	.13,8	.13,3	.13	.12,3

Countries.	Monetary unit.	1893.				1894.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5
China†	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5
Ecuador	.........do	.61,3	.61	.60,4	.53,1	.51,6	.46,5
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1
Japan‡	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5
Peru	Silver sol	.61,3	.61	.60,4	.53,1	.51,6	.46,5
Russia§	Silver ruble	.49,1	.48,8	.48,3	.42,5	.41,3	.37,2
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.46,5	.41,9

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* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do.	Brazil	32.38 pounds.
Do.	Cuba	25.3664 pounds.
Do.	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do.	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do.	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do.	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do.	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do.	Syria (Damascus)	575 pounds.
Do.	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do.	Japan	1.31 pounds.
Do.	Java, Siam, Malacca	1.35 pounds.
Do.	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do.	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do.	Nuremberg	112.43 pounds.
Do.	Prussia	113.44 pounds.
Do.	Sweden	93.7 pounds.
Do.	Vienna	123.5 pounds.
Do.	Zollverein	110.24 pounds.
Do.	Double or metric	220.46 pounds.
Chib	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do.	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Desiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lb; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264 17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0267 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1¾ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

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AMERICAN VS. GERMAN FURNITURE.

Despite the fact that the Germans are eminently practical and excel in many forms of handicraft, they are very deficient in respect to the manufacture of ordinary furniture. Perhaps this arises from the scarcity of wood, or to the fact that they have not accustomed themselves to as many articles of furniture as is the case in our own country; but, whatever the reason may be, the simple fact remains, speaking broadly, that there is no good furniture in Germany. This statement may be qualified with regard to art furniture, but even in that respect it falls far below the productions of American factories.

A somewhat extended inquiry in this direction leads me to the belief that there is in Germany an excellent field for the extension of trade in American furniture products. With the enormous output of American factories, an extension of the avenues of trade in this respect is certainly worth the effort. The Germans are conservative, to be sure, but they are not so wedded to conservatism as not to be willing to buy a foreign article if they can get it better than at home, and as cheap. Especial stress must be laid upon cheapness, for thrift is, perhaps, the most predominating German characteristic, and the average German, therefore, instead of throwing away his money, carefully scrutinizes the expenditure of every mark.

American furniture dealers, accordingly, if they wish to do business in this country, must not only make a good article, but must offer it as cheaply as possible in competition with the German dealer. I am constrained to believe that this will not be found to be an obstacle, for the reason that even the commonest articles of German manufacture in furniture are not any cheaper than with us at home. This is explained in two ways: First, the dearness of all kinds of wood, and second, the lack of as great efficiency in German workmen and of as improved machinery in Germany as obtain in the United States. As to the German product—speaking now of the ordinary household furniture—it cannot begin to compare with the American article for either beauty, finish, practicability, or strength.

It is rare to find a table or desk that sits evenly on its legs, and it is rarer still to find a common chair that will not come apart after very little use. Easy chairs of the comfortable "sleepy-hollow" pattern are almost unknown, and the usual upholstered drawing-room chairs, while substantial enough, are far from being things of beauty. The artistic and inexpensive bedroom sets—especially dressing cases and bureaus—which are to be seen in even the most humble homes in the United States, are never met with here. Instead there is a very plain black-walnut bedstead, a small chest of drawers with a wall mirror hanging over it, and an old-fashioned marble-topped washstand. These articles, with two or three ordinary chairs, furnish the bedroom equipment in the houses of the well to do. In the dining room the furniture is somewhat better, the sideboards or buffets having rather an air of substantial elegance; but the tables are not only severely plain but are exceedingly unreliable, so that when one buys an extension table he must take the chances as to whether it will "extend" or not after some use. In the parlor or drawing-room the furniture in the houses of the rich is of the art variety, and answers its purpose very well. In this direction there is probably not much of an opening, but in the drawing-rooms or sitting-rooms of those who are not rich, but only moderately well off, the average "parlor" furniture made in our country should find a ready sale. There are a dozen different kinds of lighter furniture that in the United States are almost essential which are but little known here, and which might be introduced. The subject, however, is such an extended one, and embraces so much detail, that reliable information as to openings in any specific line can only be determined by an expert; but furniture-makers at home can be assured that the chance exists if they want to take advantage of it.

Should the trade be established, it could be handled through commission houses in Hamburg. As to the best way of developing it, and upon what lines, the undersigned believes that the best plan would be for the American Furniture-Makers' Association to send over here one or more experts to make a thorough study of the question. It is certain that the money spent in this direction would not be wasted. As a slight guide, appended hereto will be found the freight rates across the Atlantic and the customs duties. With these in his mind, and with the assurance that the American article is very much better than the German, while the German is sold for as much money as the American, the American manufacturer can estimate the possibilities and advisability of sending some one before "to spy out the land."

The customs duties are as follows: Rough furniture, unpainted, 3 marks per 100 kilograms (36 cents per 100 pounds); with ornamental work or painted, 10 marks per 100 kilograms ($1.20 per 100 pounds); upholstered, but uncovered, 30 marks per 100 kilograms ($3.60 per 100 pounds); upholstered and covered, 40 marks per 100 kilograms ($4.80 per 100 pounds).

Freight from New York to Hamburg is 10 marks per 100 kilograms ($1.20 per 100 pounds).

High as these duties and freights are, the superiority of the American product and the improved methods of workmanship would practically offset them.

E. W. S. TINGLE,
Consul.

BRUNSWICK, *June 7, 1894.*

PRODUCTION OF POTASH SALTS IN GERMANY.

The consolidated industries which mainly supply Europe and the United States with the various salts of potash are located in a basin or alluvial plain west of the river Elbe, and to the south and southwest of Magdeburg, in the province of Saxony. This mineral region is bounded on the south and west by the Harz Mountains, and for many centuries it was worked as a source of common salt, which was obtained by evaporating the natural brine, pumped up from driven wells that reached only to the upper stratum of the vast deposit. This deposit is now known to have a thickness of nearly 5,000 feet, and is estimated to have been not less than fifteen thousand years in process of formation.

The minerals which contain potassium salts are found between the Palaeozoic and Mesozoic formations. They include principally carnallite, a double chloride of potassium and magnesium, from which is derived chlorate (muriate) of potash and several other important products; and kainite, a tripple salt of potash, chlorine, and manganese, which is used raw as a fertilizer, and also as a crude material in the manufacture of several concentrated salts. The carnallite contains also kieserite, a natural manganic sulphate, which is likewise used for agricultural purposes. Enormous beds of rock salt both cover and underlie the several strata of potash minerals, which are still further protected from filtration and dissolution by thick layers of saline clay.

The discovery and opening of natural salt mines in other parts of Germany finally rendered the artificially evaporated salt of the Elbe region unprofitable, and the Prussian Government, in 1839, began boring to test the depth and thickness of the deposit, with a view of opening shafts for mining the rock salt. This led to the sinking of a shaft, which, in 1857, at a depth of 1,080 feet, reached a stratum of kainite impregnated with compounds of magnesia and potash, and which was then regarded as worthless refuse. The little potash which was then used in manufacture was derived from wood ashes, and Liebig had not yet demonstrated its important relation to vegetable life, and its consequent value as a fertilizer. The discoveries of Liebig gave a new and important value to the potash minerals of Prussian Saxony. New borings were made over a large area, new shafts were sunk at various points and extended downward through thick strata of carnallite, kainite, kieserite, and saline clays to the enormous bed of salt which formed the substructure of the immense deposit, only the mere surface of which had been scratched by the borings of the previous two hundred years. The first refinery for the production of muriate of potash was founded at Stassfurt in 1861. Its success was so immediate and stimulating that within four years afterward eighteen potash works were in operation. Their product soon outran the then incipient demand and brought on a collapse, from which the industry was rescued in 1868 by the repeal of the State monopoly on common salt, and the organization of the nine principal potash refineries into the combination which exists to-day under the name of the "Sale Syndicate of Potash Works, Stassfurt-Leopoldshalle" (*Verkaufs Syndikat der Kaliwerke*). The syndicate has its central offices at the city of Stassfurt, near Leopoldshall, in the midst of the mineral district. It pools the product, regulates the sale, and controls the output of the nine principal companies which collectively form the syndicate, and which have absorbed most of the smaller mines and refineries in the district, so that it may be said to govern, at present, the world's supply of potash. Its principal works are at Stassfurt, Leopoldshall, Westeregeln, Loederburg, Aschersleben, Thiede, Bernburg, and Vienenburg, and the extent of its business will be realized from the statistics of its actual sales of crude salts and refined products during 1892, viz:

	Tons.
Crude salts:	
Rock salt	293,400
Carnallite	736,750
Kieserite	5,782
Schoenite	40,689
Sylvinite	32,669
Kainite	545,084
Refined products:	
Muriate of potash	114,311
Sulphate of potash	15,465
Sulphate potash-magnesia	12,550
Manure salts	8,296

Of the crude potash minerals carnallite, kainite, kieserite, and sylvinite are all used, both in a raw and pulverized state, as fertilizers for agricultural purposes, and as material for the manufacture of concentrated salts. As a raw fertilizer, kainite is the most valuable and widely used, not less than 485,593 tons of it having been used for that purpose during the past year, of which 363,223 tons were employed in German agriculture, and 122,370 tons exported. The principal material for concentrated potash salts is carnallite, of which more than 700,000 tons were consumed in the refineries of the Stassfurt syndicate during the past year, which employs as miners, manufacturing laborers, chemists, engineers, clerks, etc., about 10,000 men.

The demonstrated importance of potash salts for restoring the fertility of exhausted lands has created a large and steadily increasing export of these products to the United States, and has led to numerous inquiries from our country as to the nature and origin of the raw materials from which they are derived, and the special processes by which they are refined and prepared. Most forms of culture exhaust in varying degrees three elements of the soil—nitrogen, phosphoric acid, and potash—and, as the farming lands of the United States give up year by year their original supply of these substances, and approach nearer and nearer to the condition of the long exhausted but artificially maintained fields of Europe, it becomes a question of increasing interest to know how these indispensable elements are in future to be supplied, and American farms and gardens kept up to the high standard of fertility upon which profitable culture in the older and more densely settled States has already come to depend.

For nitrogen our farmers have nitrate of soda, fish and meat refuse, cotton seed meal, and the whole list of stable and other organic manures to draw upon. The phosphate beds of Florida and South Carolina may be relied upon to supply abundant phosphoric acid. Whether the potash supply of the future will still have to be imported or can be produced at home, will depend upon whether deposits of crude potash minerals have been or may yet be discovered in North America, and whether, if available, they will be utilized and worked with the skill and success that characterize the potash industry of Germany.

The practical methods employed by the Stassfurt syndicate for concentrating and refining potash salts are to a large extent original, and are the result of thirty years' experience by chemists of the highest ability. They differ somewhat in the several refineries with the varying nature of the raw materials found in each particular locality, and in some of the factories two or more processes are practiced for making the same product. The technology of potash chemistry is therefore a subject which can not be adequately treated within the limits of a consular report. But, in view of the interest which already attaches to this branch of manufacture, and the apparent desire for information among potash consumers in the United States, some account is herewith presented of the principal forms in which the German potash minerals are found, and the concentrated products which are derived from each.

Carnallite, the crude mineral from which most of the refined salts are derived, is a crystallized double salt of chlorine and magnesia, the chemical formula of which is KCl, $MgCl_2$, $_{6}H_2O$. It is found in various colors—white, yellow, red, gray, and black—and contains, when pure, 34.5 per cent of chloride of magnesium, 26.8 per cent of chlorate of potash, and 37.8 per cent of water. But it is rarely found pure, being generally combined with rock salt and other impurities, the average proportion to the Stassfurt district being 60 per cent of carnallite to 25 per cent of rock salt, the remainder being composed of kieserite and anhydrous clay. As already stated, it may be used crude as a fertilizer, but as it contains only from 9 to 10 per cent of pure potash, its transportation to points remote from the mines would be too expensive, and, as it readily yields its potash by solution, it is principally used for the manufacture of muriate of potash, sulphate of magnesia, sulphate of soda, and calcined manure salts. Muriate of potash is produced by dissolving carnallite in a hot concentrated solution of chloride of magnesium. The mineral being dissolved, the solution is allowed to gradually cool, when the muriate crystallizes separately, leaving the chloride of magnesium still in solution. The operation involves four stages, viz: (1) dissolution of the raw carnallite; (2) evaporation of the solution (mother-lye), whereby is produced artificial or secondary carnallite; (3) redissolution of the secondary carnallite; (4) crystallization and purification of the muriate of potash from the secondary solution.

In the first of these operations the crude carnallite is broken in mills or crushers, and raised by elevators to a kettle in the upper portion of the works, which has a capacity of 12 tò 15 cubic meters, and which contains the hot chloride solution already described. Into this kettle hot water and steam are injected, and the chlorate of potash and chloride of magnesium are separated in the solution, leaving the rock salt and kieserite (Mg, SO_4, H_2O) undissolved. In some factories where the crude carnallite is especially pure the mother lye is drawn off after the first dissolution, and the muriate derived by direct crystallization; but the usual process is to evaporate the mother lye, producing thereby a purified artificial carnallite, which, being redissolved and cooled, a nearly pure muriate is obtained. This is then further purified by washing with water at ordinary temperature, after which it is dried in calcining ovens, or a specially adapted drying kiln (Thelen's apparatus) and becomes the "chlorkalium," or muriate of potash, of commerce, which ranges in purity from 75 to 90 per cent, the residue being composed of sulphate and chlorate of magnesia, common salt, sulphate of lime, and water. The refuse which remains in the kettle after the carnallite solution has been drawn off, contains often as high as 20 per cent of chlorate of potash, and is then calcined and used as crude manure salts. Among the by-products of the foregoing operation are Glauber's salts and kieserite, containing 50 to 60 per cent of sulphate of magnesia. The apparatus required is quite simple, the only specialty being the evaporating pans, which are oven-shaped, with three tubes, one large and the other two smaller, through which the flame and gasses of combustion pass and return so as to best utilize the heat.

Kainite ($K_2SO_4, MgSO_4, MgCl_2, {}_6H_2O$) is found mainly in the intermediate strata which underlie the upper salt bed, and overlie the carnallite deposits. The crude mineral is white, pink, yellow, red, or black, according to the oxides with which it is impregnated, and contains, when pure, 35.1 per cent of sulphate of potash, 24.2 per cent of sulphate of magnesia, 18.9 per cent of chloride of magnesia, and 21.8 per cent of water. In the Stassfurt mines it is always found combined with rock salt, and the commercial product contains from 50 to 70 per cent of pure kainite, and is sold finely pulverized as a fertilizer, with the guaranty that it contains not less than 23 per cent of sulphate of potash, equal to 12.4 per cent of pure potash. Of the kainite mined last year by the Stassfurt syndicate, 485,593 tons were sold raw for agricultural purposes, and 59,490 tons were consumed as material in the production of calcined and crystallized sulphate of potash magnesia, which contains about 27 per cent of pure potash, 16 per cent of magnesia, and a small proportion of chlorine, and is one of the most valuable of the new fertilizers. Another concentrated product derived from kainite is sulphate of potash, 90 per cent pure, from which carbonate of potash is made by the LeBlanc process.

The preparation of kainite for commerce as a fertilizer consists of (1) eliminating the rock salt and other impurities with which it is combined in the crude mineral, and (2) pulverizing the kainite so as to render it convenient for application to the soil, and readily soluble as plant food. For the first operation three different processes are used at different refineries. These processes are named from their respective inventors, the "Borsche & Brünjes" system, the "Dupré & Hake," and the "Precht" processes. Into the details of these three methods it is impossible to enter in this connection, further than to say that by the Borsche & Brünjes method the mineral kainite is dissolved in a cold, saturated solution, which is then heated to 80° C. (176° F.), and, on cooling, deposits crystallized sulphate of potash magnesia. In the process of Dupré & Hake the operation is similar to the above, except that a hot concentrated solution of sulphate of magnesia is used to dissolve the kainite. By the Precht method, the kainite is dissolved either in water or a solution of common salt heated under pressure to a temperature of from 120° to 150° C. (248° and 303° F.), by which means 3 tons of coarsely broken kainite may be reduced in about thirty minutes, and the sulphate of potash-magnesia transformed into a finely crystallized double salt, of which the formula is K_2SO_4, $2MgSO_4$, H_2O. This product is rendered more soluble by treatment with a saturated solution of common salt, which is used in such proportion that the chlorate of potash and chloride of magnesium are eliminated, leaving the new double salt undissolved.

Sylvinite, a third mineral, is also found in the mines of the Stassfurt district, and has been used to some extent in recent years for the manufacture of muriate of potash and other chemicals. It contains 22 to 30 per cent of chlorate of potash, 60 per cent of common salt, and 4 to 12 per cent of sulphate of potash-magnesia.

An important branch of the Stassfurt industry is the manufacture of carbonate of potash from the sulphate and chlorate of potash, for which several processes are employed, notably the Le Blanc method, and another of later date invented by Engel and further perfected by the chemists of the works at Neu-Stassfurt, where it is employed. A description of these processes would lead into technicalities which would be cumbrous and unprofitable here; but in general it may be said of all these methods that they are simple and easily understood, but require in practice consummate technical skill and good management to secure uniform and favorable results. Those who wish to study the subject exhaustively will find it treated in elaborate detail by Dr. Emil Pfeiffer in his "Handbuch der Kali-Industrie" (Braunschweig, 1887), and more succinctly but recently by Dr. Ferdinand Fischer in his "Handbuch der chemischen Technologie" (Leipsic, 1893). Both these treaties are of the highest authority, but are in German, and seem to have no English editions. Dr. Pfeiffer was for many years director of a leading potash refinery, and his book describes all the processes now used, and represents by engravings the machinery and fixtures which are employed.

The degree of practical interest which may attach to this subject now or in future, from the American standpoint, will depend largely upon whether there remain undiscovered in our country deposits of potash minerals which may lead to the establishment of similar industries, and in the end render American farmers and other consumers of potash salts independent of imported supplies. The present question would seem to be how far and how thoroughly has the search for such minerals been carried in the United States? Have the strata which underlie the salt beds of New York, Michigan, southwestern Virginia, and Utah been probed sufficiently deep to prove that the same conditions do not exist there as in Prussian Saxony? If such exhaustive search has not yet been made, it doubtless will be. Let it be remembered that the salt wells of the Stassfurt district were worked for centuries without a thought of the far more valuable carnallite and kainite which underlie the upper salt stratum, and that these, which now furnish most of the world's supply of potash, are mined at depths far less difficult than those of the deepest silver mines of Nevada. To quote the opinion of a leading European expert:

> Not until the substrata which lie beneath all the principal American salt beds have been explored to a depth of at least 3,000 feet, will it be definitely known whether or not nature has stored on the western continent a supply of potash adequate and fitted to complete the trinity and balance the nitrates of Chile and the phospates of the Florida peninsula.

FRANK H. MASON,
Consul-General.

FRANKFORT, *July 14, 1894.*

COTTON AND COTTON MANUFACTURES IN JAPAN.

I inclose a copy of a memorial, prepared by the Yokohama Chamber of Commerce, for transmission to the London Chamber of Commerce, taken from the Japan Gazette of June 9, 1894. I forward this copy, not for its bearing on the financial question referred to in its title, but to furnish the statistics therein given in a semiofficial way as to the cotton-spinning industry in Japan, which the Department may wish to communicate to those of our citizens whose business gives them an especial interest in the export of raw cotton.

Let me supplement the information furnished by these statistics by saying that, when they attracted my attention, I sought further facts from one or two reliable and responsible firms here, who are, in a commercial way, well acquainted with the Japanese trade.

I am informed by one company, which has unusually good and reliable sources of information, that the number of cotton spindles in operation in the mills of Japan before the end of this year will undoubtedly be between 800,000 and 1,000,000. This estimate is based on a private statement made to this company by the firm which has imported and sold almost all of the spinning machinery in use in Japan.

The manufacture of cotton fabric is one of the largest industries of Japan, and, I believe, is growing more than any other. Let me, as an evidence of the truth of this assumption, call attention to the fact that, though the last session of the Imperial Diet (national legislature) was very short, this cotton-fabric industry was considered of such importance that the import duty which the Imperial Government collects on raw cotton was remitted. After July 1, 1894, raw cotton will be admitted free of duty, and this in the face of the fact that, under the treaties in force, the Government is prohibited from collecting more than 5 per cent duty on any article, and its revenues from import taxes are consequently extremely limited.

Raw cotton, other than American, is bought for manufacturing purposes in Egypt, India, and China. In the manufacture of the fabric, I am informed, a certain proportion of the raw cotton, varying according to the grade of the goods to be turned out from 30 to 55 per cent, must be long-staple cotton.

The Indian and Chinese cottons are short staple. The Egyptian is a very long staple—too long to be used in the ordinary spinning machinery without preparation in another and a special machine. The production of Egyptian cotton is limited, and the wholesale price is from 15 to 20 per cent higher than that of our cotton.

Japanese manufacturers are each year improving the grade of their cotton fabrics, and are thus demanding a larger proportion of our cotton, which is the only long-staple cotton that can be used in their machines economically; yet I am informed that by far the greater proportion of this large supply of American cotton is purchased in Liverpool and London, but a small portion of it being imported direct from our ports.

The supposed explanation of this peculiar condition is that ocean freights from England to Japan are much less than the combined railway and ocean freights from an inland American point to Japan. If these statements are true, our people are losing the selling commission or profit, the maritime insurance, and the freightage on a product which is distinctively an American staple, and one necessary to the factories here.

In view of these facts, and remembering that the market here is not one that is to be opened up and developed, but is already made, and that the demand for the American product is not only great, but increasing, it might be possible for our great cotton interests, acting in harmony with our transcontinental railway lines, to establish a direct trade which would, even on a much lower railway freight rate, swell the profits of the railways and greatly increase the general profits arising from American foreign trade. We might thus, if successful, gain direct control of a trade which would not only turn legitimate profits into American channels, but a much broader and more far-reaching advantage would be gained by giving us an independent market, thus materially weakening and ultimately destroying the right, which to-day Liverpool is supposed to exercise, of fixing the price of our cotton in our own market on the theory that she controls the only market for our product.

For climatic reasons, Asia is the great market for cotton fabrics, and, under the impulse in favor of local manufacturing which is springing up, especially in Japan, it is a great market for the raw cotton. It is apparent that the fear of losing this trade was the principal thought in the minds of the framers of the inclosed memorial, most of them being English merchants and importers of English yarns.

The Japanese are favorable to us, and perfectly willing to deal with us in all lines of trade, but, of course, are forced by business prudence to buy in the cheapest market. I have several times tried to secure the placing of orders for manufactured articles in the United States, but have each time been told that our cost of production was so great that we could not bring our prices down to the level on which they stood in England and Germany. Even if this is true, it seems that a new field is open to us.

Within very recent years Japan, realizing that she has a population fitted for the acquirement of skill in the technical manufacturing arts, and that such labor can be obtained here at a lower price than in any other country, has evidenced her determination to manufacture, not only for internal consumption, but for a broader market, and is beginning to demand raw material. She is aided in this undertaking by the fact that there is no protection of foreign patents, and, her artisans being quick to imitate, she can successfully copy the best mechanical appliances of the countries of the globe, and can in this way produce a machine which, for given work, often excels any to be found in the world. This development of the various manufacturing arts is, we may say, still in the initiatory period; but the cotton fabric industry has undoubtedly passed beyond that stage, and Japan is to-day not only supplying her home consumption, but is shipping cotton fabrics abroad.

I think that it is safe to conclude that our people can supply the demand for this raw product, gaining not only the profits hereinbefore pointed out, but the additional advantage of opening up the channels of trade with us, through which other products may be encouraged to pass. It may be pertinent to this thought to call attention to the fact that, according to Japanese official returns, we bought in 1893 from Japan goods to the value of $17,475,858.54 (gold), and we sold her goods to the value of only $3,836,957.

If we can not satisfy this people of our ability to sell them manufactured products, it would seem to be most advisable for us to make a strong effort to gain their trade as purchasers of raw material, in order to cut down as much as possible the great balance of trade against us, as shown by the figures given.

N. W. McIVOR,
Consul-General.

KANAGAWA, *June 20, 1894.*

THE COTTON INDUSTRY OF JAPAN.

[Extract from a memorial entitled the "Silver Question" of the Yokohama Chamber of Commerce to the London Chamber of Commerce. From the Japanese Gazette of June 9, being an inclosure in Consul-General Jones' report.]

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Japan is eminently in a position to take advantage of the acute condition of affairs now reached, for she has an unlimited command of good and intelligent labor at very low rates of wages, and her supply of coal is ample for her own needs, as well as for export. Consequently, with her industries protected by the low exchange, Japan is becoming a great manufacturing country, and is rapidly advancing to a position of marked prominence in many of the branches of eastern trade.

Cotton yarns have been and still are amongst the principal imports from England and British India to the far East, but Japanese spinnings are rapidly growing in favor, not only in Japan, but also in China, and we think it probable that, if the silver exchanges remain depressed, as at present, these markets will at no distant date be closed to all yarns save those of their own manufacture.

The following figures, furnished by the Agricultural and Commercial Department, will serve to show briefly the rise and progress of the cotton-spinning industry in Japan:

	Spindles.
The first mill was erected in the year 1863, with	5,456
By the end of 1883 this had been increased to 16 mills with	43,704
By the end of 1888 this had been increased to 24 mills with	88,140
By the end of 1892 this had been increased to 39 mills with	403,314

The official returns for 1893 are not yet issued, and can not therefore be given, but it is believed that there are now forty-six mills in existence running about six hundred thousand spindles.

There is the prospect of an even more rapid increase in the near future, as it is known that large orders have been placed for more cotton-spinning machinery (some intended for yarns of the finer qualities), and it is probable that in the next session of the Japanese Diet the export duty on cotton yarns will be removed, the bill having passed the House of Representatives last session,* while strong efforts are being made to obtain the abolition of the import duty on raw cotton as well.

In connection with the cotton manufactures there is to be noted a great increase in the import of raw cotton generally; but we anticipate that, if exchange with America remains at a very low level and the rupee continues to be held above its bullion value, China will eventually furnish to Japan all the cotton she needs, except such staple as can not be grown on Chinese soil. In evidence of this possibility, the import of raw cotton from China to Japan has increased from 61,328,021 pounds in 1891 to 95,115,180 pounds in 1893, and is capable of practically unlimited development.

We think it unnecessary to refer in detail to the many other manufactures in which this country is not only supplying home wants, but successfully competing with Europe, in the markets of China, the Straits Settlements, and India.

Japan is not deficient in mineral wealth, and the premium given to Japanese coal by the estrangement of silver from gold has resulted in a largely increased export to many quarters, including San Francisco and Bombay, and, as it is understood that Japanese shipowners are acquiring steamers specially adapted for this trade, it may be expected to show continued and increasing vitality.

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*Since the above was drawn up, the bill abolishing the export duty on cotton yarns has been passed, and comes into force on July 1.

RICE CULTURE AND AMERICAN MACHINERY IN SIAM.

The rice crop of Siam—one of the greatest rice-producing countries of the world—which has just been harvested, and is now being rapidly placed upon the market, is deficient both in quantity and quality as compared with that of an average year. This can be accounted for by the fact that the whole rice-producing area was so completely covered with the annual floods, which were so much larger and remained upon the field so much longer than is usually the case, that the plants decayed to such an extent that a 65 to 70 per cent crop as to quantity, and a 90 per cent one as to quality, is the result. This shortness in the rice crop is a great misfortune to Siam, as rice constitutes over 80 per cent of her export trade.

The cultivation of rice in Siam is carried on in the most primitive manner; indeed, no progress has been made in the past hundred years in this line. Beyond the use of the crudest of bull tongue plows and the machinery in the rice-cleaning mills in this city, no implements or machinery of any kind are employed.

Without the buffalo the Siamese rice cultivator would be without his most important aid. This large beast is used as the motive power in front of the bull tongue. He draws the rice in from the fields after it is cut, and he is also used for thrashing, being driven backwarks and forwards over piles of rice heads. After tramping in this way some hundreds of miles, he succeeds in separating, in the course of two or three months, about as much grain from the husk as a mill run by an electric hand battery would turn out in twenty-four hours.

A small quantity of rice is cleaned in home-made hand mills. This, however, is practically limited to that used for home consumption. This apparatus is of the crudest construction, and the process is not nearly so rapid as that of the buffalo method.

The Siamese, as a rule, are not prejudiced against the introduction of western ideas; indeed, the controlling element is rapidly adopting them. The palaces and public buildings are built on modern plans; the army and navy, as well as the customs, are run under western rules. On the streets can be seen carriages of the latest designs, and electric tramways from the United States, paying large dividends, are running through the crowded thoroughfares. Railroads are being constructed into the rice-producing districts to take the place of the rowboat in delivering products on the market, and many other marks of progress help to convince one that American agricultural implements, especially those suitable to the cultivation of rice, could be introduced here with profit to all concerned if our seemingly dormant manufacturers would undertake in some way to place their goods upon these markets. The fact that most of the land under cultivation is owned and cultivated by noblemen and others of high rank, who are able to afford the best improvements, would seem a recommendation to our merchants of the advisability of making an effort towards the introduction of such goods in Siam. They would have no competition, for as yet no one has made an effort in this direction.

ROBERT M. BOYD,
Vice-Consul-General.

BANGKOK, *April 12, 1894.*

CHICORY IN BELGIUM.

The cultivation of chicory root now occupies a very important position in Flanders. The present large trade in the commodity owes its beginning to the native demand for a substitute for coffee. Not only is chicory much cheaper for home consumption, but the doctors have recommended it as a very healthy drink. It is said to be especially beneficial to persons suffering from disorders of the stomach. Belgians use it almost universally for a mixture with coffee, as they consider that the result is a greatly improved flavor. The chicory root grown in western Belgium is considered to be superior to the French or German product. The conditions of its growth, and the facilities for its preparation are, in this country, most favorable. A sandy soil and an abundance of water for properly washing the root are essential. Both these requirements preëminently exist in West Flanders. A secondary quality grows in the Walloon provinces. Its inferiority consists in the fact that much earth clings to the root, it being impossible to thoroughly wash it, owing to the lack of water supply.

The yearly chicory crop of Belgium amounts to 280,000 to 350,000 tons. In the preparation by washing and drying this total is reduced 25 per cent—that is, to 70,000 or 80,000 tons of root. Of this quantity the greater portion is exported, and the remainder, about 25,000 tons, consumed in Belgium. The exportation for 1893 was approximately as follows:

Destination.	Quantity.	Destination.	Quantity.
	Tons.		*Tons.*
France	25,000	Switzerland	1,500
Germany	10,000	Italy	1,500
United States	4,000	Baltic countries	1,000
England	3,500	Total	50,500
Austria	2,000		
Northern countries	2,000		

Formerly the greater quantity of chicory sent to the United States was manufactured here before export; now, however, almost the entire trade consists in the shipment of the raw root.

As an illustration of the growth of the American trade, one firm gives me the following figures of their exportations: Years ending October 1, 1892, and 1893, 500 and 931 tons, respectively, and for the three months ending December 31, 1893, 450 tons. It will be observed that their exports were almost as much for the last three months of 1893 as for one entire year eighteen months ago. Several firms growing chicory in Flanders have established their factories in the United States.

The total value of chicory root and granulated chicory exported from this consular district to the United States during the past five years was as follows:

1889	$11,166.14
1890	39,440.03
1891	80,074.95
1892	78,295.97
1893	129,662.78

HENRY C. MORRIS,
GHENT, *April 10, 1894.* *Consul.*

CEYLON TEA FOR THE UNITED STATES.

In June, 1886, I reported upon tea, the production of which was then being prosecuted as a "new Ceylon industry." The shipments had amounted to 4,353,000 pounds in the previous year, and both planters and exporters were anxiously considering ways and means for introducing their product into different countries, especially the United States. In 1889 a "Ceylon Planters' American Tea Company" was formed locally, which merged in 1891 into an American company, bearing the same name, I believe, and incorporated under the laws of New Jersey. Considerable advertising was done in the United States by the last-named company, but very little tea was handled by them, and in 1893 the company went into liquidation. In the meantime the Ceylon Government had appropriated $100,000 toward making an exhibit at the World's Columbian Exposition at Chicago, and it appears that most of that money was expended in the interest of Ceylon tea. With this incentive the local shipments of tea to the United States amounted to 250,945 pounds in 1893, though about 163,000 pounds, say nearly two-thirds, of that quantity went to California, quite independent of any stimulus whatever from the World's Fair exhibit. The total shipments to the United States in 1891 having been 268,554 pounds (about the same quantity as in 1890), and only 250,945 pounds in 1893, it is plain that up to the present the considerable attempts that have been made to introduce Ceylon tea into the United States have met with small success. The planters, however, are not discouraged, and at their meeting in Newara Eluja, on the 14th of April, they voted to ask the Government to continue indefinitely the export duty on tea of one-tenth of one cent per pound (imposed in 1893 to raise funds for the Exhibition at Chicago) for the purpose of continuing what they call "the American campaign."

At the said planters' meeting several schemes for attacking the American market were considered, and one, propounded by a Canadian commercial traveler named Stevens, appeared to obtain the most favor. Now, however, Mr. Stevens' scheme is set aside, and at a joint committee meeting of planters and merchants, held at Colombo on the 24th instant, it was decided to offer a bounty of about half a cent per pound to American importers on all Ceylon teas purchased by them.

I give herewith a printed report of that meeting, as it may prove interesting to American importers:

Minutes of proceedings of a meeting of the joint committee of the Ceylon Chamber of Commerce and the Planters' Association of Ceylon, appointed to consider and advise upon a scheme for furthering the interests of Ceylon tea in America, and upon the manner in which the export duty, if continued, should be administered for this and other similar objects, held at Colombo, on Thursday, the 24th of May, 1894.

* * * * * * *

After discussion the following resolutions were passed, viz:

(1) That, as Mr. W. Tyrie Stevens has not accepted the provisional offer which the joint committee were prepared to recommend, the committee cannot now advise his being engaged on the terms stated in his letter of May 7th.

(2) That, after further consideration, the joint committee are of opinion that funds do not now permit the scheme of a traveling representative in America, with a representative in New York, as referred to in resolution 3 of the meeting of the joint committee, dated April 28, 1894.

(3) That resolution 5 of the meeting of April 1894, be consequently rescinded.

(4) That, whatever scheme may ultimately be adopted, the committee consider it essential to have a representative in New York who is known to and has the confidence of the Planters' Association and the Chamber of Commerce, and who shall supervise the carrying out of such scheme, and shall advise the committee of the fund as to what further steps it is, in his opinion, desirable to adopt; and the committee recommend that the remuneration of such representative shall be fixed at a sum not exceeding £1,500 per annum, including traveling expenses, and for such period as may hereafter be found advisable.

(5) That the joint committee recommend, as the basis of a scheme, the payment to importers of a percentage on the value of their imports to the United States calculated on the basis of their invoices certified by consular stamp, and the New York representative should be intrusted with the duty of making known this guaranty in the proper quarter, and seeing to its payment in due course.

(6) That the committee recommend that, as the return guarantied to importers must be made on the total imports and not merely on the annual increase, it should be calculated at the rate of 2½ per cent, as the fund available will probably not permit of a larger return.

(7) That the committee recommend that the administration of the fund obtained from the export duty shall be intrusted to a committee of thirty members, of whom twenty-four shall be appointed by the Planters' Association and six by the Chamber of Commerce; that such members shall be appointed at as early a date as possible for the present year, and thereafter annually at the annual general meeting of the two respective bodies, to hold office for the following year; and that such committee shall be considered the successors of the present standing committee of the Tea Fund, and shall hold their meetings where they may determine, and, when not so determined, at any previous meeting in Kandy.

(8) That the committee recommend that the Chamber of Commerce and the Planters' Association should request the Government to continue the present export duty on tea until such time as, in the opinion of the committee of the fund, it is desirable to discontinue it.

(9) That in view of the importance of the question, and that it should be thoroughly considered before the general meetings of the Planters' Association and Chamber of Commerce, the minutes be published and do form the report of the joint committee.

As hereinbefore mentioned, the total shipment of Ceylon tea to all countries in 1885 was 4,353,000 pounds, and 84,406,064 pounds in 1893, showing the enormous increase in eight years of over 80,000,000 pounds. In the meantime prices have so fallen annually that in 1893 the average price of Ceylon tea at public sales in England was *9d.* (18 cents) per pound.

For this fall in price several reasons are given. One authority says the price of tea follows the price of silver; another says plucking for quantity instead of for quality is the cause; another says carelessness in the manufacture has much to do with it; another that Ceylon tea does not keep well, *i. e.*, it soon loses its fine flavor; and others say that it is actually deteriorating in quality.

I am much inclined to believe that the last-named cause is the most nearly correct, for it is within my knowledge that estates which ten or fifteen years ago produced good tea grow nothing now worthy of that name. This is especially true of properties in the low country, and to a great extent of old coffee lands among the hills converted into tea estates. In the low country the soil is poor, and constant cropping soon exhausts the tea elements therefrom. Accordingly, after ten years at most, the tea product is so very poor that the liquor from it resembles more a decoction from boiled herbs than from good tea.

To keep up the quality manuring is necessary, but the price of tea in Europe (18 cents per pound), does not pay for fertilizing; neither will manuring pay in the higher altitudes, though the price of high-grown tea is about 25 per cent more than of that which is grown in the low country nearer the sea.

Much of the upcountry tea is grown on hillsides, where, owing to the steepness of the land, most of the manure applied is washed away by the rains. But if the theory of electric storms producing an abundance of plant manure in the form of nitrogen is correct, the high altitude estates have a great advantage, as there is much thunder and lightning and rain in the hills of Ceylon nearly all the year round. Therefore high-grown tea may be expected to hold its own and keep its flavor for some years to come. More especially is this the case where the estates have been made on virgin soil in favorable localities.

Considering that most low-grown teas are too poor in quality for anything but blending purposes, some not being even fit for that, it follows that, as a rule, only high-grown Ceylon tea is suitable for the American market; more especially as the object is to displace China and Japan teas, already largely in use there. This can only be done by presenting a better article to the dealers and consumers at as low, or perhaps lower price, than now obtains. To do this, I conceive that nothing cheaper than 20 to 25 cents (United States money) per pound locally, can be successfully used. Of course there is plenty of such tea produced here, but very little is sold in the local market, for, as a matter of fact, producers of such tea mostly send their product to London, where its quality is so well known to the trade that it is sure to be sold profitably; and there may be other reasons for its going there that need not be mentioned here. It will be hard, therefore, to induce them to send it on speculation to the United States.

Tea suitable for the United States will therefore need to be bought in London, after its cost has been greatly enhanced there by many intermediate expenses and charges, and where, perhaps, its purity or quality has not been improved by manipulations. Accordingly it is by no means certain that China and Japan teas will be easily or largely displaced in a country where they are already used to the extent of 85,000,000 pounds per annum, while Ceylon tea, notwitstanding the expenditure of large sums of money and much advertising in the last five years, has not attained the proportions of even 500,000 pounds per annum.

The total distribution of Ceylon tea to all countries in 1893 was:

Whither exported.	Quantity.	Whither exported.	Quantity.
	Pounds.		*Pounds.*
United States	259,945	India	964,104
Africa	114,857	Mauritius	110,079
Austria	7,190	Malta	38,435
Australia	6,968,956	Russia	53,272
Belgium	3,509	Singapore	21,906
China	188,099	Spain	37,513
France	27,922	Sweden	3,650
Germany	225,536	Turkey	8,434
Great Britain	75,249,132	Total	84,406,064
Holland	10,818	Total in 1892	71,153,657
Italy	9,097		

The China item in the foregoing table is possibly an anomaly, as it probably applies to tea for the Pacific coast of America, sent via China.

The people of Australia are British, and, accordingly, tea drinkers, which accounts, in some measure, for the considerable quantity to their credit (6,968,956 pounds). Besides, many ex-Ceylon colonists have gone to Australia, and are engaged more or less introducing tea there.

There is also great reciprocity of trade between the two countries, which, of course, stimulates an exchange of commodities. Besides, Australasia and China are far apart, whereas Ceylon is only nine days distant from Australia by steam, and communication between the two countries is cheap and continuous.

Again, the latest reports of Ceylon tea sales in Australia show that about 7*d.* (14 cents) was the ruling price there, the minimum price being 4*d.*, say 8 cents per pound. This indicates a very low quality of tea, suited, perhaps, to a population reputed to use about the worst tea in the world; but it is hard to conceive of Americans being brought to consume such tea in large quantities.

Unfortunately, the element of reciprocity of trade is absolutely absent between the United States and Ceylon; for while the United States takes nearly $2,500,000 worth of Ceylon products yearly, and mostly free of duty, Ceylon imports nothing directly from the United States, and very little indirectly, while transportation between the two countries is circuitous and expensive.

Formerly some kerosene oil came here direct from New York—not much, to be sure, and never amounting in value to $100,000 per annum. Even upon this an import duty was levied in 1885 against my protest. Now the import of kerosene oil direct from the United States has actually ceased. The same is true of American drills, which formerly came here in considerable quantities, but which are now displaced, mostly by locally manufactured drills, which are neither as good nor as cheap as Pepperill drills.

Hitherto all organized attempts to introduce Ceylon tea to the United States have been in the way of advertising and retailing; but the present scheme contemplates an appeal to the wholesalers. Whether or not those gentlemen are so wedded by habit and business connections to their present modes and sources of supply that they will not readily embrace the new advances, now about to be offered to them, with one-half of one cent per pound bonus, remains to be seen; and it is not to be expected that they will require a consul's advice on that subject. Possibly, however, after several years of careful consideration and observation, I may state as an opinion that Ceylon tea, worth locally free on board, 20 to 25 cents per pound, is probably as good an article at present as can be got for the same price anywhere; but as a rule, that quality of tea is not largely sold locally. Again, as the years roll by, Ceylon tea, to restate the fact mildly, does not improve in quality.

I am informed by the largest local shipper of tea to the United States that his advices from the United States intimate that the Ceylon export price should not exceed 15 cents per pound. If such is the case it is doubtful if any considerable tea trade can be done between the two countries; for, in my judgment, the teas sold locally, for much less than a rupee per pound, are very poor. I myself have sampled some that was invoiced at 18 cents (United States money) per pound free on board, and it was not, to my taste, drinkable.

W. MOREY,
Consul.

CEYLON, *June 7, 1894.*

CACAO AND COFFEE IN ECUADOR.

Statistics herewith given were furnished by the exporting house of Daniel Lopez's successors.

CACAO.

Cacao received at Guayaquil up to April 30, 1894: Arriba, 55,812 quintals (of 100 pounds); balao, 3,263 quintals; machala, 4,344 quintals; total, 63,419 quintals, against 102,467 quintals for same period in 1893.

The appearance of the crop at present would indicate that the supply of arriba for May and June will be very plentiful, but for the following months there will be a great falling off. As the rains, which were suspended in March, came again in April, the orchards are flowering again, and there may be a fair after crop of arriba in October and November. The general opinion as to the total cacao crop is that it will be 25 per cent less than that of 1893—that is 300,000 quintals.

COFFEE.

The coffee crop of 1893 reached over 50,000 quintals, being considerably larger than for any previous year. As there is now much more land in coffee than last year, a still larger crop is expected this year; and the information from the Daule, Boliche, and Zaguachi districts is very favorable. The crop of 1894 is expected to reach 60,000 quintals at least. The new crop begins to come in during July and August.

The attention of agriculturalists has been directed to the planting of coffee in the mountain districts, from 2,000 to 5,000 feet above sea level, and there is a vast extent of available land which can yet be utilized for the growth of coffee.

When handled properly, the coffee grown in Ecuador is of superior quality, and I have no doubt but that, in a few years, it will deserve a separate classification in our markets as Guayaquil coffee.

Besides the coffee lands tributary to Guayaquil, there is a large area of the very finest coffee lands in the upper provinces of Esmeraldas and Manabi.

GEO. G. DILLARD,
Consul-General.

GUAYAQUIL, *May 5, 1894.*

THE PROVINCE OF MOZAMBIQUE.

PORT OF MOZAMBIQUE.

Decreased trade.—The conditions of trade in this port during the past year have not been at all satisfactory, and the prospects for the year (1894) are not encouraging. There has been a falling off in both imports and exports; in fact, this decrease has been going on for some time, as the following table will show:

Year.	Imports.	Exports.	Total.
1889	$709,300	$538,500	$1,247,800
1890	687,000	451,500	1,138,500
1891	1,078,000	557,400	1,635,400
1892	707,000	437,500	1,144,500
1893	663,400	358,750	1,022,150

Duties and taxation.—The merchants attribute this falling off to the increased duties which came into force in March, 1893. In 1892, with imports valued at $707,000, the duties amounted to $116,350, while in 1893, with but $663,400 worth of imports, the duties amounted to $190,130, an average of nearly 30 per cent. During the first two months of the present year the imports amounted to but $64,842, while the duties on the same amount to $23,089, or about 35 per cent. These are not the only taxes the merchants have to pay. There is a "decima" or 10 per cent income tax to be paid, besides licenses to trade, which, for wholesale firms, cost as high as $125 per annum. The new duties are felt most in the cotton piece-goods trade.

Imports.—Plain cottons are taxed at the rate of 200 reis per kilogram, or about 10 cents per pound, and dyed and printed cottons at the rate of 350 reis per kilogram, or about 17 cents per pound; consequently the importation of cotton goods is not as great as it was a few years ago. Some of the cottons imported at present are of the flimsiest sort, and there can not be much strength or durability in them. The only good point in the eyes of the Indians and Banians is that it takes a deal of it to weigh a kilogram. This variety of cotton cloth, as well as a considerable quantity of an article a little heavier, which is dyed an indigo blue and is heavily sized, comes from Bombay. The better sorts of cotton goods are mostly of English make, though some fine American drills are occasionally imported. A traveler for a cotton firm in Manchester, England, visited this port a few months ago, but did little business, as hardly a merchant would buy, all preferring to reduce their stocks as low as possible before ordering fresh goods. Woolens, flannels, and other textiles, as well as boots and shoes, hats, and other articles of wearing apparel, soaps and toilet articles, and many sundries are imported from Bombay by the Indian traders. These goods are generally of European make, and are, as a general rule, parts of consignments, or of bankrupt stocks that have been picked up in Bombay at auction. Teak-wood chairs and tables of Indian make, flour, rice, onions, and some Batoum oil are also brought from India. In fact, the cargo of a dhow from Bombay consists of almost everything imaginable; much of it is little better than rubbish, but some is of fairly good quality. Canned fruits and vegetables imported into Mozambique are generally of American or Portuguese production; canned meats are American. Lard and salted and pickled fish and meat come from Portugal. Pickles, sauces, and preserves are mostly of English make. Potatoes and onions come from Portugal and France, and Marseilles and Trieste furnish small lots of flour occasionally. American and Russian oils are consumed here in about equal quantities. Fermented liquors and mineral waters come from Germany; Portugal and France supply the wines; France the vermouth, cognac, and absinthe; while whiskeys come from England, though occasionally a case of whisky made in Canada is seen. Cutlery and tools are generally of English or German make, and the quantity imported is small. American clocks, watches, and sewing machines are frequently met with, but they must evidently have come here by roundabout routes.

Exports.—The exports from Mozambique generally go to Marseilles, Hamburg, or Rotterdam, the first-named port taking more than one-half. The principal article of export is peanuts, or "arachides," of which 8,600 tons were exported during the year; but there has been little or no money in the business, on account of the heavy fall of prices in Marseilles. The present quotation is $48 per ton of 2,204 pounds. At the beginning of the season, about nine or ten months ago, the price went up to $63 per ton. As peanuts, the principal barter article, have fallen in value, and as cotton and trade powder, the articles which the natives desire most, have advanced in price, they must necessarily raise nearly twice as many of the nuts this year as they did a year or two ago if they wish to purchase the same quantities of cottons and powder they did then. The exports of oil seeds, orchilla weed, hides, hard woods (ebony, etc.,) beeswax, rubber, and ivory have been comparatively small during the past year, and all these articles, with the exception of some ivory, which went to Zanzibar or India, were shipped to European ports.

Public works.—The only public works of any consequence that were carried on during the year were a new town hall, a large stone pier running out into deep water in the bay, and new planking and iron girders for the pier in front of the governor's palace. The two former are still unfinished, and no work is being done on them at present, owing to a lack of funds, but the latter has been completed. The only projected work of any importance is a bridge a little over half a mile in length to connect the southern end of the island with the mainland opposite. This bridge will probably be of iron, upon iron piling, but whether it will be contracted for or built entirely by the public works department I am unable to state, and am also unable to ascertain when it will be built. The only machine shop in the port is that in the Government arsenal. It has done considerable work, mostly marine-engine repairs for the steamers frequenting this port, and, although it takes a long time to complete a piece of work of any size, it is generally done in a satisfactory manner. Government iron-work, too heavy to be constructed in the arsenal, is generally obtained from Portugal.

ANTONIO ENNIS (PARAPAT).

This port, formerly called Parapat, is situated in the district of Angoche, about 100 miles south of Mozambique. It is located on the western slope of a hill, on the right bank of the Angoche River, and about 5 miles from its mouth, which is obstructed by a rather bad bar, while a few miles away to the north and to the south are several small reefs and islands. A few small beacons on the shore were set up some time ago to mark the channel, but no lights whatever are exhibited. There is a pilot at the port who goes out to meet incoming vessels.

This port does a large peanut trade, and furnished 5,000 of the 8,600 tons exported from the port of Mozambique during the past year. Three European factories and a large number of Indian and Banian shops take care of the traffic of the port. Every morning during the peanut season long caravans of natives bearing bags of the nuts upon their heads may be seen coming into the town, and at night they depart with loads of cotton goods, trade powder, a few flint-lock guns, and small quantities of sugar and salt.

Trade in this port is in a very healthy condition, and is bound to increase, as there is an enormous native population in the districts surrounding it.

A little over 100 miles south of Antonio Ennis (Parapat), is the island of Moma, where many Banians and Arabs, up to a few months ago, used to do a flourishing trade. As there were no Portuguese officials on the island the traders had everything pretty much their own way, and did about as they pleased with the native chief of the place. It is suspected that more than one dhow has left Moma during the past year with contraband cargo, but it is difficult to prove it. A few months ago the chief of Moma incurred the displeasure of another chief dwelling on the mainland, who, in retaliation, immediately attacked Moma, killed many of its native inhabitants, looted the shops, and burned the place to the ground. In consequence of this, the legitimate trade of the Moma district is being transferred to Antonio Ennis (Parapat); the illegitimate trade, it is hoped, is dead.

The Angoche is a much better agricultural country than the Mozambique district of this province; its rainfall is greater, and the land seems to be more fertile. In the Mozambique district, near the coast, it is difficult to find a river worthy of the name, while in Angoche there are several rivers of good size, and a large river runs into the sea near Moma. When this district is better known, some good use will be made of these numerous streams.

IBO.

This, the northern port of the province, is situated in the Cabo Delgado district, and is the port of entry for the same. An association called the Uyassa Company has recently acquired certain concessions in this district, and propose to open the country up after the manner of the Mozambique Company. They have at present a resident agent in Ibo, and several prospectors in the interior, who report finds of gold and coal. It is reported that one coal seam has been found close to Ibo.

When the new customs duties came into force in this province Ibo was given a tariff much lower than that of the other ports. In fact, it practically amounts to about 5 per cent ad valorem all round, and this low tariff has undoubtedly benefited the port. The imports and exports for 1893 were much greater than for the previous year. The principal article of import is cotton goods, and the exports consist of rubber, of which 3,500 bags were shipped during the past year; also wax, ivory, orchilla weed, pearls, and sesame seed. Of this latter, some 1,000 tons were exported during the year.

Four European houses look after the wholesale trade. The retail trade is entirely in the hands of the Banians and Indians.

This district is a very rich one, and, when properly opened up, ought to support a large trade. At present the natives of the district care more for raiding and fighting than for agricultural pursuits, and there can be no real progress there so long as there is no security for life and property, which there will not be until the natives settle down.

KILIMAN.

This port has enjoyed a fairly prosperous year, although the customs returns show a falling off in trade. The principal imports of Kiliman are cotton goods, hardware, low-grade agricultural implements, building materials, and provisions. Almost all of these come from England or the Continent, though a considerable quantity of cotton goods is imported by the Indian traders from Bombay. The exports, which go almost entirely to Europe, are peanuts, of which some 4,000 tons were exported during the past year; also oil seeds, copra, rubber, ivory, sugar, and various tropical products.

The sugar trade is in a healthy condition, and is growing rapidly. In the Zambesi Valley are miles of land splendidly adapted for sugar-raising. One planter has turned out over 600 tons of sugar from a young plantation during the past year, and has made money. Others are beginning to interest themselves in sugar-raising on a large scale, and sugar bids fair to become, in a few years, a large and staple article of export from the district of Kiliman. Almost all of this sugar goes to Lisbon, where it finds a good market.

CHINDE AND NYASSALAND.

The port of Chinde, 60 miles south of Kiliman, and situated on the Chinde, north of the Zambesi, is fast becoming a formidable rival to its northern neighbor.

The returns from the Portuguese custom-house for the past year are small—imports, $45,100, and exports, $48,550. The bulk of the trade consists of goods to and from Nyassaland in transit. These goods are not declared at the Chinde custom-house, but go immediately from the ocean or coasting steamer to the river boats (the navigation of the Zambesi being entirely free), by which they are transported to the Nyassaland border. Chinde's imports are much similar to those of Kiliman. The exports are peanuts, oil seeds, sugar, coffee, ivory, and rubber. The coffee comes from Nyassaland, where there are extensive plantations, and goes to England. As the plantations are all young, the export last year was small—a few hundred tons—but it is sure to increase, as there is a good market for this coffee in England; in fact, the demand is greater than the supply. The coffee bush thrives wonderfully well in Nyassaland, and the coffee disease is unknown there.

Nyassaland is a very fertile country and one that is progressing rapidly, its trade during the past year amounting to $90,000, an increase of $60,000 over that of the preceding year.

Although there is no direct trade between the United States and these districts, American goods are by no means unknown. American axes and tools, heavy cotton drills, watches, and sewing machines are met with frequently and are much appreciated.

The bar off the mouth of the Chinde River prevents large vessels from coming inside, but sailing vessels up to 400 tons register, and small steamers can easily enter. A sailing vessel was lost on the Chinde bar some few years ago, when the port was first opened. The master of the vessel undertook to bring her inside without waiting for the pilot. He missed the channel and piled his vessel up on the bar.

BEIRA.

Acting Consular Agent, C. A. Andrews, submits the following report upon Beira, dated April 30:

I have been unable to obtain from the customs the statistics of goods landed here, or the arrivals of steamers, etc. In a new place like Beira one can not expect to obtain the necessary information correctly, and, in my report, I have simply given my opinion of the place, having been a resident of Beira since 1891. I believe that Beira will be a very flourishing port in a few years' time, especially for goods in transit for Mashonaland, and large shipments of mining machinery will pass through this way. There will be a great demand for timber for house-building, etc.; also for agricultural implements, and it would be as well to keep American shippers well posted in regard to this. I am afraid the demand for breadstuffs will not warrant sending large quantities, as these arrive in small quantities from the Cape Colony.

The town of Beira is situated on a sandy peninsula, at the mouth of the Pungwe River. Until about three years ago the place was known only to a few Portuguese and native traders.

When the British South Africa Company took possession of Mashonaland, the desirability of communicating with the East Coast was at once recognized, as the overland route from the Cape was long and tedious. The Pungwe River presented the desired outlet, and Beira was decided upon as the port, arrangements being made with the Portuguese Government to allow all goods to pass in transit at 3 per cent duty. The town may be said to have come into existence since 1891. At that time there were only a few scattered huts and a house for the Government officials. There are now large business houses of different nationalities. British, French, German, Portuguese, and Dutch have now well-stocked stores, and are doing a fair business. The Mozambique Company has also erected commodious offices and a suitable residence for the governor.

The population of Beira at the end of 1893 was about 230 whites and 1,000 natives.

The climate is fairly healthful. Most of the invalids come from the interior to recruit their health here.

The hospital is under the control of the Mozambique Company and is well managed. Every sick person, of whatever nationality, receives proper attention.

As a harbor, no port on the coast offers greater facilities than Beira. The channel is deep and well buoyed, and there is room at the anchorage for a considerable number of vessels. Cargo is discharged into lighters and landed at the custom-house. A substantial and commodious wharf is now approaching completion. There is a rise of 16 to 20 feet at spring tides, and about 8 feet at neaps. Vessels can easily be beached to clean or examine their bottoms. This can be done with perfect safety, as there is a sandy beach and very little sea.

There are no banks here, and the want of banking facilities puts the mercantile community to considerable inconvenience, especially as we have no telegraphic communication with any part of the world.

Mail steamers arrive about once a week, the time being about thirty days from England.

The Pungwe River, for vessels of light draft (not more than 3 feet), is navigable for 75 miles. Vessels drawing 5 to 6 feet navigate the river at spring tides for about 60 miles. The country on each side of the river is very flat, and during the rainy season (December to March) it is under water for miles.

The railway commences at a place called Fontesvilla, about 50 miles up the Pungwe River. It is a 2-foot gauge and runs for a distance of 75 miles. Contracts have been issued for an extension of about 44 miles to a place called Chimoio. From Chimoio to the Mashonaland border is about 60 miles.

All goods passing through in transit must be cleared through the customs, and the necessary documents obtained at Beira. These have to be presented at a place called Macequece, which is in Portuguese territory, on the border of Mashonaland.

Freight from Beira to Salisbury (the capital of Mashonaland) is from $75 to $90 per ton. This will be reduced at least 50 per cent when the railway is opened to Chimoio.

Manicaland, Mashonaland, and Matebeleland have been reported to be very rich in minerals, especially gold, and at the present time hundreds of prospectors are scouring the country and pegging off claims, numbers of which are floated into companies; but nothing can be done till machinery is erected. The mining laws of this territory are similar to those of other countries where gold is found.

Land for agricultural purposes can be had very cheap. The country is very fertile. On the lowlands all kinds of tropical produce can be cultivated. The high ground is better suited to cereals, but up to the present time very little has been done in agriculture, although numbers of farms have been marked off.

Wages are considered very fair for this place. Engineers receive $125 per month; carpenters, $100; clerks, $100; unskilled labor, $50 to $75. Natives at $5 per month do most of the rough work, and only a limited number of white men are employed.

INHAMBANE.

Trade in Inhambane for the past year has been a little better than during 1892. The principal imports are cottons and other goods for the native trade. The principal article of export is peanuts. The wholesale trade of the port is in the hands of agents of the European firms located in Mozambique; the retail trade is carried on by a few Portuguese and Indian shopkeepers.

The Inhambane district would support a much larger trade if the natives, in any number, could be induced to till the soil; but they care more for a military life, and the few who will work prefer to go to the gold, coal, or diamond mines, where they can make four or five times as much money as they can in their own country in the same space of time.

LORENZO MARQUEZ.

Trade at this port has been fair during the past year and the first quarter of the present year. All the merchants are anticipating a busy time as soon as the Delagoa Bay Railroad is opened to the gold fields, which event is expected to occur in October or November. Both the Transvaal and Mozambique governments are making preparations for a great celebration over the opening of the railroad, and considerable money will be spent in festivities.

The Lorenzo Marquez merchants are shrewd business men, and know a good thing when they see it. They know that the railroad is a good thing for them and their port. It is what they have waited long and patiently for, through good seasons and bad, and now that they have fairly got it, they are going to make the most of it. Lorenzo Marquez has a bright future before it. The opening of the railroad will place it in a position to successfully compete with the Cape ports and Natal for the trade of the Transvaal, a country that is now turning out over 150,000 ounces of gold per month.

The time has now arrived for American exporters to lay the foundations of a thriving business with this port. Building materials, manufactured woodwork, railroad and mining supplies, naval stores, cotton cloth, duck and drills, oils, provisions (salt and canned), agricultural implements, and tools will find a good market here.

W. STANLEY HOLLIS,
*Consul.**

MOZAMBIQUE, *May 15, 1894.*

THE SWISS WATCH INDUSTRY.

At the present moment the prospects of the Swiss watch industry are unusually discouraging, at least so far as the Jura region, in the canton of Neuchatel, is concerned. As is well known, this region has long been the most formidable rival of the United States in the sale of watches in our own market. It continues to be so in spite of the mechanical perfection and the wonderful organization of the industry in our country.

The export from Switzerland has varied in value from $3,500,000 in 1872 to $750,000 in 1877, the year following the Centennial Exposition. During the last six years it has remained rather steady at somewhat less than $2,000,000. So far, however, during the current year the export from Jura to the United States has hardly been more than half as large as during the preceding year; so that, unless a decided improvement ensues, the year following the Chicago Exhibition will also be a bad one for Switzerland. But, so far as I am able to learn, the sharp decline is due this year to general causes, and not, as in 1877, to an incontestable defeat in international competition. The decrease in exports is true with regard to other countries as well as the United States. According to the statement of Mr. Henry Rieckel, jr., United States consular agent at Chauxdefonds, no country but Russia is now sending orders of any importance. It also appears that the diminution in the volume of business is due not so much to the smaller number of watches manufactured as to their lower quality and price. The very inferior merchandise is manufactured at prices which have little profit to either the manufacturers or their employés.

The extreme depression in prices is attributed in part to the relation which exists between the watch factories and the buyers or finishers. This last term is applied to watchmakers of small means, to whom the rough works and cases produced by machinery are delivered to be finished and put togéther at a fixed price. These finishers have no resóurces but their labor and that of the artisans whom they employ, and to whom, naturally, they pay as little as possible. The outcome of this struggle between the factories employing machinery and the finishers will probably be the ultimate disappearance of the latter.

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*Tables accompanying this report will be published in Commercial Relations.

Meanwhile, it is hoped that the fall of prices may be arrested, wholly or in part, through the agency of a single establishment, the Comptoir Général des Fabriques de Chauxdefonds, to which the sale, at a fixed price, of the products of about twenty factories in Chauxdefonds, the center of the industry in the Jura, is to be intrusted. The production of each of the factories interested in the enterprise will be determined and limited by the average production of years past. The manufacturers engaged in this movement make exclusively what are known as "ébauches," the unfinished parts of watches, and as their association binds them only with reference to this special kind of work, the manufacturers of complete watches have perhaps reason to fear that, restricted by their contract to certain limits in the production of "ébauches," they may gradually turn their attention also to the complete manufacture. The present producers of finished watches being the sole customers of the proposed central establishment, it is possible that their secret hostility may render the comptoir's existence uncertain, if not ephemeral. If, on the other hand, the fears of the watchmakers in regard to these factories should prove to be well founded, the former would henceforth find occupation solely in the production of complicated and special articles, the orders for which are so unimportant that the factories could not afford to attend to them.

The manufacture of watch cases, especially of gold, is relatively less depressed than formerly, since the termination of the commercial treaty with France, which has had most unfavorable results for several other industries, came opportunely to set aside the competition of Besancon.

What has been said of the general situation of the watch industry of the Jura applies also to the business with the United States. Little merchandise is forwarded to the United States at present, and that little at ruinous prices. Houses having stocks on hand witness a constant diminution of their value. However, there are some indications that a slight revival of business may be at hand.

In general it may be said that the watch industry of Switzerland is passing through a difficult period, especially in respect to the decline in prices. But, as there is a continual improvement in the quality and method of the work done at prices extremely favorable to the purchaser, it is hoped that with the revival of business in general better times may come for this industry also.

GEORGE GIFFORD,
Consul.

BASLE, *April 16, 1894.*

BUDGET OF BERLIN.

This budget is for the fiscal year ending April 1, 1893. It was translated by Vice-Commercial Agent Murphy, of Luxemburg, at the request of the late Mr. Edwards, consul-general at Berlin.

According to the estimates of the municipal bureau of statistics on January 1, 1893, the population of the city of Berlin was 1,656,742 (including military persons).

Budget of Berlin for year ending April 1, 1893.

Items.	Receipts.			Expenditures.		
	Ordinary.	Extraordinary.	Total.	Ordinary.	Extraordinary.	Total.
Department of real estate, etc.	*Marks.**	*Marks.**	*Marks.**	*Marks.**	*Marks.**	*Marks.**
Real estate in the city	563,596	....	563,596	135,710	....	135,710
Country real estate, as well as rented property outside of the city	101,201	....	101,201	11,009	....	11,009
Limestone quarry at Rüdersdorf (one-sixth of net profits)	109,550	....	109,550	3,500	....	3,500
Municipal perquisites:						
Various receipts in insurance matters	46,000	....	46,000	6,000	....	6,000
Testing of weights and measures	42,229	....	42,229	11,179	....	11,179
Market fees	7,950	....	7,950	....	....	....
Unclaimed estates	10,000	....	10,000	10,000	....	10,000
Total	880,526	....	880,526	177,398	....	177,398
Department of municipal works (available surpluses).						
Gas works	5,151,000	....	5,151,000	....	....	....
Waterworks	1,679,307	....	1,679,307	3,078,437	147,330	3,225,767
Sewerage works	....	....	....	....	....	....
Central slaughterhouse	212,400	....	212,400	....	....	....
Total	7,042,707	....	7,042,707	3,078,437	147,330	3,225,767
Tax department.						
House-rent tax (Tax rate: Where rent does not exceed 200 marks, 0 per cent; on rents of 201 to 400 marks, 2 per cent; on rents of 401 to 600 marks, 3 per cent; on rents of 601 to 800 marks, 4 per cent; on rents of 801 to 1,000 marks, 5 per cent; on rents exceeding 1,000 marks, 6⅔ per cent.)	12,900,000	....	12,900,000	30,000	....	30,000
House tax (2⅔ per cent of the total receipts or use value of the property)	6,050,000	....	6,050,000			

* 1 mark=23.8 cents.

Budget of Berlin for year ending April 1, 1893—Continued.

Items.	Receipts.			Expenditures.		
	Ordinary.	Extraordinary.	Total.	Ordinary.	Extraordinary.	Total.
Dog tax (20 marks=$4.76 per annum)	503,000	....	503,000	5,800	....	5,800
Municipal income tax	19,578,743	....	19,578,743	350,000	....	350,000
Municipal addition to the malt-brewing tax	580,000	....	580,000	....	....	....
Itinerant trade tax	500	....	500	....	....	....
Total	39,612,243	....	39,612,243	385,800	....	385,800
Capital and debt department.						
Capital proceeds	477,181	....	477,181	....	....	....
Loans:						
Partial payment of debts (from the central treasury of the municipal works)—						
Gas-works' account	622,808	....	622,808	5,949,395	....	5,949,395
Waterworks' account	2,671,072	....	2,671,072			
Sewerage-works' account	1,358,493	....	1,358,493			
Central-slaughter-houses account	233,937	....	233,937			
Market-halls' account	246,212	....	246,212			
Interest on debts (from the central treasury of the municipal works)—						
Gas-works' account	844,651	....	844,651	9,377,258	....	9,377,258
Waterworks' account	1,909,945	....	1,909,945			
Sewerage-works' account	3,100,980	....	3,100,980			
Central-slaughter-houses account	427,357	....	427,357			
Market-halls' account	981,905	....	981,905			
Mortgages	30,000	....	30,000	102,338	....	102,338
Total	12,904,541	....	12,904,541	15,428,991	....	15,428,991
Department of education.						
Gymnasiums, real-gymnasiums (polytechnic institutes), and polytechnic high schools (tuition, 100 marks=$23.80 per student)	1,216,000	....	1,216,000	2,294,003	4,500	2,298,503
Real-schools (higher public schools—tuition, 80 marks =$10.04 per student)	339,026	....	339,026	641,140	27,100	668,240
Higher schools for girls (tuition, 100 marks=$23.80 per student)	417,240	....	417,240	498,441	5,550	503,991
Halls for gymnastic exercise connected with the municipal schools, play-grounds, etc	16,031	....	16,031	218,376	2,328	220,704

Budget of Berlin for year ending April 1, 1893—Continued.

Items.	Receipts.			Expenditures.		
	Ordinary.	Extraordinary.	Total.	Ordinary.	Extraordinary.	Total.
Annual reports and scientific treatises	150	....	150	391,200	....	391,200
Common schools (tuition free)	89,788	....	89,788	9,406,077	....	9,406,077
Instruction of the dumb and blind	43,128	....	43,128	122,780	430	123,210
Supplementary education	32,750	....	32,750	315,700	9,369	325,069
Industrial education	8,570	....	8,570	281,260	....	281,260
Total	2,162,683	....	2,162,683	14,168,977	49,277	14,218,254
Department of public charities.						
Gifts, contributions, etc.	555,400	....	555,400	6,681,868	....	6,681,868
Frederick William Hospital and Infirmary	51,751	....	51,751	487,550	....	487,550
Orphan asylums	203,634	....	233,634	1,052,939	5,043	1,057,982
Workhouse	254,727	....	254,727	709,756	....	709,756
Municipal lodging houses and disinfection institute	15,465	....	15,465	184,803	....	184,803
Total	1,080,977	....	1,080,977	9,116,916	5,043	9,121,959
Arrangements for the nursing of the sick, and for the promotion of public sanitation.						
Arrangement for the nursing of the sick:						
Hospital at Friedrichshain	280,800	....	280,800	629,900	....	629,900
Moabit hospital	253,800	....	253,800	666,270	....	666,270
Urban hospital	218,650	....	218,650	603,050	....	603,050
Insane and idiot asylum at Dalldorf	206,385	....	206,385	1,440,296	....	1,440,296
Insane asylum near Lichtenburg	102,200	....	102,200	725,736	....	725,736
Asylum for epileptics at Biesdorf	36,300	....	36,300	345,512	....	345,512
Arrangement for the promotion of public sanitation:						
Bathing establishments	128,940	....	128,940	447,812	26,383	474,195
Public disinfection institute	35,300	....	35,300			
Care of convalescents, etc.	....	....	....			
Total	1,262,375	....	1,262,375	4,858,576	26,383	4,884,959
Department of parks and gardens.						
Parks and gardens	17,732	....	17,732	480,430	154,650	635,080
Building department.						
House-building	....	1,566,000	1,566,000	373,178	4,302,800	4,675,978
Street and bridge building	1,522,090	3,330,800	*4,852,890	7,018,495	*6,642,300	13,660,795
Total	1,522,090	4,896,080	*6,418,890	7,391,673	10,945,100	18,336,773

*Including 4,906,800 marks, which were secured by loan.

Budget of Berlin for year ending April 1, 1893—Continued.

Items.	Receipts.			Expenditures.		
	Ordinary.	Extraordinary.	Total.	Ordinary.	Extraordinary.	Total.
Municipal government.						
Salaries of members of the municipal government				204,800		204,800
Salaries of clerks, etc				4,950,189		4,950,189
Supplies, costs of litigation, etc				1,131,220	98,000	1,229,220
Pensions, etc				928,000		928,000
Contributions to salaries of certain officials from sources other than the municipal treasury, fees for assessing and collecting the State income tax, etc	816,201		816,201			
Total	816,201		816,201	7,214,209	98,000	7,312,209
Police department.						
State contribution to costs of local police department	201,000		201,000	3,976,890		3,976,890
Contribution of the Fire Society's treasury to the cost of the fire department	552,800		552,800	1,524,426		1,524,426
Total	753,800		753,800	5,501,316		5,501,316
Street-lighting, street-cleaning, and sprinkling.						
Street-lighting				415,373		415,373
Street-cleaning and sprinkling	126,368		126,368	2,162,900	8,500	2,171,400
Total	126,368		126,368	2,578,273	8,500	2,586,773
Sundry receipts.						
Municipal cemetries	7,757		7,757	29,700	23,254	52,954
Civil registry offices	28,660		28,660	285,025	1,500	286,525
Sundry receipts (including the amounts paid by street-car companies for the privilege of using the streets, squares, and highways of the city)	8,268,316		8,268,316	376,196	593,580	969,776
Extraordinary surplus remaining in the central municipal treasury from the fiscal year 1891-'92		1,740,758	1,740,758			
Total	8,304,733	1,740,758	10,045,491	690,921	618,334	1,309,255

Budget of Berlin for year ending April 1, 1893—Continued.

Recapitulation.

Receipts from and expended for—	Receipts.			Expenditures.		
	Ordinary.	Extraordinary.	Total.	Ordinary.	Extraordinary.	Total.
	Marks.	*Marks.*	*Marks.*	*Marks.*	*Marks.*	*Marks.*
Real estate, etc	880,526	....	880,526	177,398	....	177,398
Municipal works	7,042,707	....	7,042,707	3,078,437	147,330	3,225,767
Taxes	39,612,243	....	39,612,243	385,800	....	385,800
Capital and debts	12,904,541	....	12,904,541	15,428,991	....	15,428,991
Education	2,162,683	....	2,162,683	14,168,977	49,277	14,218,254
Public charities	1,080,977	....	1,080,977	9,116,916	5,043	9,121,959
Hospitals, etc	1,262,375	....	1,262,375	4,858,576	26,383	4,884,959
Parks, gardens, etc	17,732	....	17,732	480,430	154,650	635,080
Buildings, streets, etc	1,522,090	4,896,800	6,418,890	7,391,673	10,945,100	18,336,773
Municipal government	816,201	....	816,201	7,214,209	98,000	7,312,209
Police	753,800	....	753,800	5,501,316	....	5,501,316
Street-lighting, cleaning, etc	126,368	....	126,368	2,578,273	8,500	2,586,773
Miscellaneous	8,304,733	1,740,758	10,045,491	690,921	618,334	1,309,255
Total	76,486,976	6,637,558	83,124,534	71,071,917	12,052,617	83,124,534

Recapitulation in American money.

Department.	Receipts.	Expenses.	Surplus.	Deficit.
Real estate	$209,565.19	$42,220.72	$167,344.47	....
Municipal works	1,676,164.27	767,732.55	908,431.72	....
Taxes	9,427,713.83	91,820.40	9,335,893.43	....
Capital and debts	3,071,280.76	3,672,099.86	....	600,819.10
Education	514,718.55	3,383,944.45	....	2,869,225.90
Public charities	257,272.53	2,171,026.24	....	1,913,753.71
Hospitals	300,445.25	1,162,620.24	....	862,174.99
Parks	4,220.22	151,149.04	....	146,928.82
Buildings and streets	1,527,695.82	4,364,151.97	....	2,836,456.15
Government	194,225.84	1,740,305.74	....	1,546,049.90
Police	179,404.40	1,309,313.21	....	1,129,908.81
Lighting and cleaning streets	30,075.58	615,651.97	....	585,576.39
Miscellaneous	2,390,826.85	311,602.70	2,079,224.15	....
Total	19,783,639.09	19,783,639.09	12,490,893.77	12,490,893.77

COTTON-SEED MILLS IN EUROPE.

In compliance with a request for information as to cotton-seed crushing mills in Europe, the Department sent instructions to consular officers in England, France, and Germany, May 29, asking them to obtain the desired data. The following replies have been received:

ENGLAND.*

More than three-fourths of all the mills in England are in Hull and its neighborhood. There are mills also in Berwick-on-Tweed, Rochester,

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*Consul Grinnell, of Manchester, reports that there are no cotton-seed mills in his district.

King's Lynn, and three or four in Liverpool. In addition to these places, cotton seed is imported into London, Bristol, Glasgow, etc. The seed used is almost exclusively Egyptian.

As the information asked for by the Department could not be secured by correspondence with any of the establishments, I have been fortunate, through the intermediation of Mr. Horan, consular agent at Sunderland, in obtaining the following information, which may prove useful to the American inquirers:

MESSRS. BROWN, ATKINSON & CO., TO CONSULAR AGENT HORAN.

HULL, July 9, 1894.

(1) We have a number of mills here which crush cotton seed, and the following are some of the principal: Walker & Smith (limited), Lomas Joy & Son, Pearson & Bailey, Henry Hodge, Wright Bros. & Co., Bulmer & Field, Stuart & Gregson, and Edward Thompson. We can not hear that the company you mention (the American Cotton-Seed Oil Company, of the United States) has any connection with the above-named mills.

(2) The highest price paid for cotton seed during the last season was about £7, last October, and the lowest about £5 13*s*. 19*d*. last November.

(3) The cotton seed was obtained principally from Alexandria (Egypt), a small portion from Smyrna (Asia Minor), and about 3 cargoes from the Brazils.

We inclose you a trade circular to the 6th instant, in which you will observe information on the subject you mention.

The freights paid from Alexandria during the last season have varied from about 8*s*. to 12*s*. per ton.

PRICES CURRENT—HULL, JULY 6TH, 1894.

Oil:
  Linseed (in casks) 20*s*. 6*d*. per cwt.
  Ditto, boiled and refined, 21*s*. 6*d*. to 22*s*. 6*d*. per cwt.
  Black Sea rape (in casks) 17*s*. 9*d*. per cwt.
  Cotton seed (naked) 16*s*. 6*d*. per cwt.
  Refined (ditto) in casks 19*s*. 1½*d*. per cwt.
  Niger (in casks), — per cwt.
Oil-seed cakes:
  Linseed, £5 10*s*. 0*d*. to £6 10*s*. 0*d*. per ton.
  Cotton seed, £3 10*s*. 0*d*. to £4 0*s*. 0*d*. per ton.
  Black Sea rape, £2 15*s*. 0*d*. to £3 0*s*. 0*d*. per ton.
  East India rape, £3 15*s*. 0*d*. per ton.
Oil-seed cakes:
  Niger, — per ton.
Linseed:
  Black Sea and Azov, L. A. T., — per 424 pounds.
  La Plata, L. A. T., 35*s*. 3*d*. per 416 pounds.
  Petersburg, 95 per cent., — per 424 pounds.
  Bombay (in bags) L. A. T., 38*s*. 0*d*. per 416 pounds.
  Calcutta (ditto), L. A. T., — per 410 pounds.
  Libau, 95 per cent., — per 424 pounds.
  Riga, 95 per cent., — per 424 pounds.
Egyptian cotton seed, £5 8*s*. 9*d*. per ton.
Ravison, — per 424 pounds.
Niger seed, — per 376 pounds.

Imports.

Articles.		Imports from Jan. 1 to July 6—	
		1893.	1894.
Linseed	quarters	158,162	226,951
Rape seed	do	25,455	61,916
Cotton seed	tons	108,008	118,764
Olive oil	casks	5,993	12,383
Rape oil	do	3,875	4,266
Oil cakes	tons	11,513	9,596
Tallow	cwts	17,531	11,629
Bones	tons	3,376	4,378
Turpentine	barrels	8,741	11,681
Tar	do	206	2,244
Guano	tons	....	455

Exports of oil.

Description.	To July 3—	
	1893.	1894.
	Tons.	*Tons.*
Linseed oil	2,150	2,084
Cotton oil	5,577	6,230

Exports of oil during week.

To—	Linseed oil.	Cotton-seed oil.	To—	Linseed oil.	Cotton-seed oil.
	Cwts.	*Cwts.*		*Cwts.*	*Cwts.*
Germany	313	148	Sundries	36	200
Holland	241	575	Total	1,789	1,023
Norway	1,192	....			
Sweden	....	100			

Linseed.—The import this week is 4,606 quarters, viz: From St. Petersburg, 4,021 quarters; from Riga, 585 quarters. There is still very little doing. Bombay shortly due sold at 37*s.* 9*d.* to 38*s.*, old terms. July-August shipment offers at 39*s.* 6*d.*, new contract with buyers at 3*d.* less. Calcutta on passage or June-July Cape nominally 39*s.* July-August Cape, 39*s.* 3*d.* Plate on passage offers at 35*s.* 5*d.*; Petersburg August-September, 38*s.* 6*d.* sellers.

Cotton seed, with little or no demand, has declined about 3*s.* 9*d.* per ton on the spot, closing with sellers at £5 8*s.* 9*d.* July shipment quoted £5 11*s.* 3*d.*, and August £5 12*s.* 6*d.* New crop for October and November-January done at £5 11*s.* 3*d.*, but as we write £5 10*s.* is the utmost obtainable. During the week 1,907 tons have arrived from Alexandria.

Rape seed neglected. Ravison September-October quoted 20*s.* 6*d*, and Jamba, July-August, 22*s.* 3*d.*, but these rates are above buyers' ideas. No import since our last.

Linseed oil 5*s.* lower on the spot, closing with sellers at 19*s.* 7½*d.* naked. Forward positions steady, sellers at 19*s.* 6*d.* July-August, and 18*s.* 6*d.* September-December. Casks, 17*s.* 6*d.*, and ordinary barrels 22*s.* 6*d.* per ton extra. Export for the week ending 3d instant, 89 tons.

Refined cotton oil 5*s.* lower, closing dull at 18*s.* 3*d.* naked spot. July-August offer at 18*s.* 4½*d.* November-April done at 17*s.* 3*d.*, with further sellers thereat. Crude 16*s.* 6*d.* sellers spot. November-April 15*s.* 9*d.* Export of refined, 51 tons.

Linseed and cotton cakes move off very slowly at about late rates.

WM. S. CAMPBELL,
Consul.

NEWCASTLE, *July 13, 1894.*

There are a considerable number of seed-crushing mills in England, nearly all of which crush cotton seeds. In the west of England, in the consular district of Bristol, there are three such mills, viz: Messrs. John Robinson & Co., (limited), at Bristol; Foster Brothers, at Gloucester; and Coad & Brown, at Bridgewater, Somersetshire. None of these mills have any connection with the American Cotton-Seed Oil Company of the United States. They are independent of each other and of any controlling organization whatever.

They obtain their entire supply of cotton seed from Egypt. From 15,000 to 20,000 tons are annually imported into the Bristol district. Cargoes are purchased through London brokers, who guaranty weight. There are no c. i. f. transactions in the trade. The freight from Alexandria to the port of delivery runs at the present moment from 8*s.* to 9*s.* ($1.94 to $2.19) per ton. The Egyptian seed is quoted to-day at £5 10*s.* ($26.75) per ton, spot, and £5 15*s.* ($27.96) two months forward. The price of oil cake, ex mill, is from £3 12*s.* 6*d.* to £4 ($17.64 to $19.56). The price of refined cotton oil is about £18 15*s.* ($91.24).

Egyptian cotton seed comes unmixed with fragments of cotton fiber. It is therefore easier to handle than the American seed. There is a further important consideration: Insurance is a great tax upon seed-crushing mills, and I understand that the premium is considerably enhanced where the American seed with its adherent fiber is either handled or stored.

The seeds are crushed undecorticated. The oil cake has not, therefore, the excellent appearance of the American cake made from the decorticated seed; but the hardness of the American cake militates against sale and price. "That last pinch of the screw," said a man to me, "is what hurts the cakes. You don't want to pave the floor with them; you want to feed them to cattle."

The oil expressed from the seeds finds a market in the soap factories, in the fish-frying shops, and in the Mediterranean.

LORIN A. LATHROP,
Consul.

BRISTOL, *July 25, 1894.*

A large number of the mills in Great Britain, especially about Hull and Bristol, crush cotton seed. Upon inquiring, I am satisfied that they have no connection with the American Cotton-Seed Oil Company.

Egypt supplies all, or most, of the cotton seed crushed in these mills. I do not find that the United States supply any of it.

The product from the United States comes in the form of cake or meal.

The highest price quoted in this market for seed during the past year was £7 17*s.* 6*d.* ($37.77) per ton, and the lowest £5 11*s.* 3*d.* ($26.85).

PATRICK A. COLLINS,
Consul-General.

LONDON, *August 8, 1894.*

I give herewith the names and addresses of the cotton-seed crushing mills in this city: William Durant, 135 Boundary street; Earles & King, A, 17 and 18 Exchange buildings; E. & W. Pearson, 19 Old Hall street; Phoenix Oil Mill Company (limited), 3 Rumford street; J. Samuelson & Sons, 48 Castle street; W. & W. H. Stead, 33 Boundary street; The Liverpool & Bankhall Seed Crushing and Chemical Company, Knowsley buildings, Tithebarn street.

From inquiries made I am unable to ascertain whether these mills have any connection with the American Cotton Seed Oil Company of the United States. The majority of these mills, I am informed, do not confine their business to this article, but also crush linseed and other seeds.

The prices paid for cotton seed during the last season are, highest, £7 ($34.06) per ton of 2,240 pounds for Egyptian, and lowest £3 ($14.59) per ton for Brazilian.

The cotton seed was received from Egypt, Asia Minor, United States, Brazil, Peru, and Tahiti. It was conveyed to this port by all classes of vessels, and the rate of freight varied according to the supply and the convenience of accommodation for shipping the same to other ports. The freight is always regulated at the port of shipment, and standard rates are never quoted at this port. Sometimes the rate covers cost of transportation from interior ports to the port of shipment, as well as the ocean freight. Information on this subject could be better ascertained at the places of shipment.

JAMES E. NEAL,
Consul.

LIVERPOOL, *September 4, 1894.*

FRANCE.

The inquiries made in the circular inclosed in dispatch from the Department dated May 29, 1894, seem to embrace a scope pertaining to all France rather than this consular district. The latter, however, makes up virtually the entire vegetable-oil territory of the country, and while no facts are at hand as to the remainder of France, the details given herein probably cover the main features of the inquiry.

(1) There is one large cotton-seed oil mill at Marseilles, that of Darier de Rouffio et Cie. This establishment is perfectly equipped, and transacts a business similar to the larger American concerns. The establishment is supposed to operate in harmony with American mills, but whether or not there is a relation between it and any particular American company "which enables the latter to control or influence its output" I have no means of ascertaining.

In addition to this concern, there are four smaller affairs which operate in harmony against the first named. These are Morin Freres, Asquasciati Freres, Courtès et Cie., and Montmayaner, Amigues et Cie.

(2) It is very difficult to secure accurate data as to prices paid for cotton seed, by reason of the fact that it is not sold on the exchange, nor bought or sold in Marseilles. Each of the above-named houses sends its buyer to the respective countries of origin, where the seed is bought and paid for and forwarded to this city. From a gentleman presumably well informed, I learn that the average price for Egyptian cotton seed during 1893 was 14.25 francs per metric quintal ($2.75 per 220.46 pounds).

(3) The first-named establishment secures its cotton seed from Egypt; those named in the second group from India. I am informed by the parties that no American cotton seed is imported, but that all of them import American cotton-seed oil, which they refine at their mills. The following table gives the quantities of cotton seed coming to this port during each of the past ten years:

Arrivals of cotton seed at Marseilles during the last ten years.

Year.	Quantity.	Year.	Quantity.
	Metric quintals.		*Metric quintals.*
1884	302,620	1889	133,990
1885	181,740	1890	211,710
1886	212,470	1891	191,850
1887	235,990	1892	251,700
1888	173,910	1893	213,060

CLAUDE M. THOMAS,
Consul.

MARSEILLES, *July 3, 1894.*

Upon careful inquiry of the principal dealers in oils in Paris the information obtained is that the only cotton-seed crushing mills in France are situated at Marseilles. Within the last two or three months, however, experiments have been made in the manufacture of cotton-seed oil at Dunkerque (department du Nord) and at Havre. But mills have not as yet been established at these places.

The present quotations for cotton-seed oils (cotton seeds are not quoted in the markets) are as follows, per 100 liters:*

	Francs.
French:	
Extra	100 to 110
Fine	80 to 90
American:	
Superior	72 to 80
Second	63 to 65
English:	
Hirsch Union "J. K. S."	63 to 64

It is difficult to ascertain the names of steamships transporting the same or freight paid. Sailing vessels from Marseilles to ports in Egypt and India return laden with cotton seeds, and the freight paid is comparatively low.

CLYDE SHROPSHIRE,
Acting Consul-General.

PARIS, *July 11, 1894.*

GERMANY.

Within the past two or three years two oil mills in southern Germany made practical experiments in crushing American cotton seed, but the experiments have been abandoned as unprofitable, by reason of the strong competition of American pressed oil; and there is now, so far as can be ascertained, no important cotton-seed crushing industry in Germany—at least not within the supervision of this consulate-general.

Official statistics show that the total importations of cotton seed to Germany in 1892 were valued at $10,472, while those of 1893 reached a value of $17,136. The imports during the first three months of 1894 amounted to only 95 tons, which, so far as can be ascertained, were consumed by some mills at or near Hamburg, in northern Germany. The exports of cotton-seed oil during 1893 amounted, in value, to $238.

On the other hand, the importations of cotton-seed oil into Germany in 1892 reached the important total of 57,608,750 pounds, and those of 1893 reached 60,241,000 pounds, during which latter year 30,111,600 pounds, or half the entire amount, came from the United States, 19,847,740 pounds from Great Britain, and the remainder from Holland and Belgium.

Cotton seed is free of duty when imported into Germany, while cotton-seed oil bears a duty of 95 cents per 100 kilograms (224.46 pounds).

In view of this fact, and the enormous disproportion between the German importations of cotton seed and cotton-seed-oil, it might be naturally inferred that there is some contract or understanding between the Vereingten deutsche Oel-Farbriken (an association which embraces all the principal seed-oil manufacturers of Germany) and the American Cotton-seed Oil Company, by which the crushing of cotton seed in this country has been practically abandoned. If this were true, it would be very difficult to ascertain with certainty from the standpoint of Frankfort.

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*1 liter=1.0267 quarts.

There is, as has already been stated, no cotton-seed crushing industry within the supervision of this office; but I am assured by a leading oil manufacturer at Mannheim—a member of the association above referred to—that the controlling reason for the abandonment of the experiments in cotton-seed crushing, which were begun by several German oil-seed mills two or three years ago, has been the demonstrated impossibility of importing a raw material so bulky as cotton seed, and manufacturing oil at a net cost which can withstand the competition of the abundant supply of high-grade oils which are produced and offered so cheaply in the United States.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 13, 1894.*

I have made careful investigation, and written to many of the firms dealing in oil cakes, asking whether they sold oil cakes manufactured from cotton seed in Germany, and all the replies were in the negative. There are no cotton-seed crushing mills in my district, as far as I have been able to ascertain, nor is there any importation of cotton seed.

There being no duty on cotton seed, the imperial statistics would not show the importations; but the importation of oil cakes is enormous, although the kinds are not separately specified.

C. H. ABBOT,
Vice-Consul-General.

BERLIN, *June 30, 1894.*

RUSSIAN RAILROADS AND THE GRAIN MARKET.

In the entire absence of statistical data concerning the present production and surplus of grain in Asiatic Russia, it appears to be extremely difficult to form an estimate as to the probable export of Siberian grain to Europe when the Siberian Railroad is completed. A rough estimate of the surplus of wheat likely to be collected and carried by the West Siberian section of the new railroad places it at 9,500,000 poods (5,724,000 bushels), but this is regarded as decidedly an underestimate. It must further be remembered that the completion of the line will act as a great stimulus to the raising of grain in those regions, partly belonging to the Chernoziom (black soil) belt of the Russian Empire, famous for its fertility, and that the surplus will increase from year to year.

In 1889 the surplus of grain of all sorts in the three governments of Tobolsk, Tomsk, and Yenisseisk exceeded 47,000,000 poods (28,287,700 bushels), of which surplus 40,000,000 poods (24,078,000 bushels) were produced in the two governments situated next to European Russia, namely, Tobolsk and Tomsk. A certain part of this surplus undoubtedly went into such regions of Siberia as are deficient in grain; but even then the amount available for export to Asiatic countries and to Europe was very considerable, though the exportation thereof was hampered through lack of the necessary means of communication.

In the year 1891, after the failure of crops in many governments of European Russia, it was practically shown that Siberia can dispose of a heavy surplus of breadstuffs. Over 15,000,000 poods (9,028,000 bushels) of Siberian grain were purchased in the Ural, and at least 10,000,000 poods (6,018,666 bushels) more could have been bought if the means of transportation had been provided.

It is evident that the unavoidable competition of Siberian grain must still further depress the low prices now prevailing in the markets of European Russia, and that it must exert an appreciable influence upon the markets of the world. It is believed that the depressing effect upon the Russian market would, to some degree, be lessened if a new outlet were provided for the Siberian product. Such an outlet is to be furnished by a new line of railroad from the city of Perm (already connected by rail across the Ural Mountains with western Siberia) to Kotlas, at the confluence of the Soukhona and Vychegda rivers, whose united waters here form the Northern Dvina, offering an easy waterway to Archanzel, the well-known Russian port on the White Sea.

The price of grain in the markets of the world is, of course, regulated by the supply and demand. The local market is ruled, first of all, by the price which prevails in the markets of the world; but it is also dependent upon the means of handling and transportation, and, to some extent, upon the local demand. The following table shows the relation of the local price of wheat in the grain centers of Russia to the price of the same article in the London market, which is assumed to be equal to 100 per cent, and also the variation in the local price during the last few years:

	Per cent.
London	100
St. Petersburg	83 to 93
Riga	83 to 97
Odessa	72 to 86
Nicolayev	71 to 85
Taganrog	63 to 86
Saratov	64 to 94
Samara	64 to 103

The variation, as compared with the London market, was therefore from 10 to 40 per cent; in other words, the local price was dependent to that extent upon local conditions.

The introduction of a considerable surplus of Siberian wheat into the grain markets of European Russia would doubtless tend to depress, first of all, the local price, exerting its pressure upon the markets of the world only in a much lesser degree. By providing a new outlet for the Siberian surplus, as above indicated, the Russians hope to lighten the pressure upon the home market, expecting that the Siberian product will naturally find its way from Archangel to western Europe. The Dvina River is navigable for large craft from Cotlas to Archangel, and the harbor of the latter city has been made accessible to the largest seagoing vessels.

The question is whether the freight expenses of Siberian wheat by the proposed new route to London will warrant any such expectation. The freight of a pood (36.112 pounds) of wheat from the River Obi to the western markets appears to be as follows, expressed in copecs, 2 copecs being equal to 1 cent:

Route.	St. Petersburg.	London.
	Copecs.	*Copecs.*
By rail direct	50.27	55.23
By rail to Perm and then by water	53.91	58.87
By rail to Ufa and then by water	53.07	58.03

By rail to Kotlas and then by water to Archangel, 45.12 copecs; to London, 56.4 copecs.

The shipping of Siberian grain to St. Petersburg direct by rail is the cheapest mode of transportation, but it is 5.15 copecs dearer than shipping to Archangel. On the other hand, in consequence of higher ocean freights, the cost of shipping to London by way of Archangel appears to be 1.17 copecs dearer. A similar showing is made if we take Tiumen, on the Siberian side of the Ural, as the starting point of the Siberian wheat. The shipping expenses by rail to Perm and then by water to St. Petersburg are 37.33 copecs, and to London, 42.29 copecs; by rail to Kotlas and by water to Archangel, 32.10 copecs, and to London, 43.38 copecs, a difference in favor of the St. Petersburg route of 1.09 copecs (per pood).

As an offset, it is claimed that the storage of wheat in St. Petersburg will cost more than the amount of the above difference in the freight, whereas storage at the Archangel Grain Exchange will cost nothing. Further, the transportation of grain from Perm to St. Petersburg by water takes three months; to Archangel only two weeks, namely, five days by rail to Kotlas and seven days down the Dvina to Archangel. Finally, the expansion of the shipping interest in Archangel and the increasing competition is expected to result in a reduction of freight charges to London, whereas it is beyond question that the shipping of Siberian wheat to Norway by the new route is decidedly cheaper under any circumstances than by way of St. Petersburg.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *August 1, 1894.*

MINES AND MINING IN FRANCE.

The French labor bureau has recently published the following statistics of mines in France:

COAL MINES.

Year.	Consumption of coal in France.	Production.	Average number of employés.	Number of mining properties.	Mining properties newly worked or enlarged.	Mines worked during the year.
	Tons.	*Tons.*				
1883	32,439,000	21,334,000	113,000	635	0	315
1884	30,491,000	20,024,000	109,000	635	0	307
1885	30,035,000	19,511,000	102,000	636	1	298
1886	29,619,000	19,910,000	102,000	639	3	297
1887	31,191,000	21,288,000	103,000	636	0	291
1888	32,674,000	22,603,000	105,000	636	0	293
1889	33,511,000	24,304,000	110,000	638	1	289
1890	36,653,000	26,083,000	122,000	635	0	287
1891	36,573,000	26,025,000	132,000	635	1	296
1892	36,516,000	26,179,000	133,000	636	3	298
Yearly average	33,000,000	22,700,000	113,000	636	1	297

Year.	Number of mines running at a profit.	Profits of mines running at a profit.	Number of mines running at a loss.	Losses of mines running at a loss.	Excess of profits over losses for all mines worked.	Average value of a ton of coal at the mine
		Francs.		*Francs.*	*Francs.*	*Francs.*
1883	190	42,807,000	125	6,343,000	35,454,000	12.50
1884	190	37,590,000	117	6,122,000	31,468,000	12.33
1885	191	41,359,000	110	4,705,000	36,654,000	11.73
1886	166	36,611,000	133	3,648,000	31,963,000	11.19
1887	163	37,841,000	129	3,733,000	34,108,000	10.63
1888	166	36,928,000	127	3,566,000	33,362,000	10.31
1889	171	38,124,000	119	4,165,000	33,959,000	10.42
1890	172	61,799,000	112	4,701,000	57,098,000	11.94
1891	176	65,016,000	120	5,040,000	59,976,000	13.25
1892	158	46,577,000	136	7,280,000	39,297,000	12.40
Yearly average	174	44,000,000	123	4,900,000	39,500,000	11.68

Year.	Labor cost of a ton of coal.	Profit upon a ton of coal.	Average production per employé.	Average annual salary per employé.	Profit upon the labor of each employé.
	Francs.	*Francs.*	*Tons.*	*Francs.*	*Francs.*
1883	5.96	1.61	189	1,125	315
1884	5.86	1.57	183	1,073	290
1885	5.43	1.88	192	1,042	360
1886	5.39	1.61	195	1,049	315
1887	5.17	1.60	206	1,067	330
1888	5.04	1.48	215	1,084	320
1889	5.12	1.40	219	1,120	310
1890	5.62	2.19	215	1,206	470
1891	6.09	2.30	197	1,203	455
1892	6.21	1.50	197	1,221	295
Yearly average	5.60	1.75	200	1,125	360

Coal production, after decreasing from 1883 to 1886, increased from that year to 1892, amounting for the latter year to more than 36,000,000 tons. Consumption increased for the ten years 4,000,000 tons, and production increased 5,000,000 tons. The excess of consumption over production is somewhat more than 10,000,000 tons—that is to say, about 28 per cent of the coal consumed in France is imported from other countries.

In 1892, of 636 existing mining properties, 298 only were worked, of which number 158 were worked at a profit. For the decade, the average is higher, to wit: Of 636 mining properties an average of 297 were worked, of which number an average of 174 were worked at a profit.

The number of employés in the 298 worked mines in 1892 was 133,000, and in the 315 worked mines in 1883 it was 113,000.

In 1892 the average price of a ton of coal at the mine was 12.40 francs ($2.39) which was 70 centimes higher than the average price for the ten years. The labor cost of a ton for the same year was 6.21 francs ($1.20), which was also higher by 60 centimes than the average for the ten years.

The net profits, after the deduction of losses and the payment of royalities, was 1.50 francs (29 cents) per ton extracted, which was 25 centimes less than the average profit for the decade.

The annual production per employé, both surface and underground, after having increased from 189 tons to 219 tons during the difficult period from 1883 to 1889, decreased to 197 tons during the prosperous period 1890–'92.

The average annual wages of the employés (underground and surface employés, women and children included), increased from 1,125 francs ($217.13) in 1883 to 1,221 francs ($235.65) in 1892. The latter figure is about 100 francs ($19.30) higher than the average for the decade.

The average annual net profit of all the mines together for the decade is about 40,000,000 francs ($7,720,000), or about 360 francs ($69.48) for each person employed.

The average wages and production of employés in the coal mines of the principal coal-mining districts for the year 1892, are given as follows:

Districts.	Number of working days in the year per employé.		Average annual wages per employé.		Average daily wages per employé.		Average annual production per employé.		Labor cost per ton of product.
	Underground.	Surface.	Underground.	Surface.	Underground.	Surface.	Underground.	Without distinction.	
			Francs.	*Francs.*	*Francs.*	*Francs.*	*Tons.*	*Tons.*	*Francs.*
Nord and Pas-de-Calais	285	310	1,391	1,024	4.88	3.30	296	229	5.72
Saint Etienne	300	298	1,428	973	4.76	3.26	303	198	6.41
Alais	293	325	1,393	984	4.75	3.02	238	160	7.86
Le Creusot and Blangy	287	307	1,293	1,093	4.51	3.56	290	174	6.98
Aubin and Carmaux	267	223	1,189	751	4.45	3.36	234	155	6.73
Commentry	280	289	1,107	802	3.95	2.78	289	202	5.02
Lignites de Fuveau (Provence)	237	269	1,114	871	4.70	3.24	233	168	6.24
Average	284	299	1,329	954	4.68	3.19	276	197	6.21

The total number of employés underground was 94,994, of which number 89,916 were men and 5,078 were minors. The total number employed at the surface was 38,199, of which number 29,299 were men, 3,807 were women, and 5,163 were minors.

MINES OTHER THAN COAL.

The number of metallurgic mining properties in France, salt mines excluded, in 1892, was 695, of which number 10 per cent were newly worked or enlarged during the year. The total number of properties worked during the year was 160, employing 13,116 persons. The relation of those worked at a loss to those worked at a profit was in the proportion of 3 to 2. The profits were about 6,000,000 francs ($1,158,000) and the losses 2,500,000 francs ($482,000), leaving a net profit for all of about 3,500,000 francs ($675,500). The value of a ton of the diverse products of these mines was slightly more than 7 francs (1.35\frac{1}{10}$). This figure, which has no value by itself, on account of the diversity of the products, is useful for the purpose of comparison with the following figures: The labor cost of a ton was 3.50 francs (67.55 cents), and the profit per ton was 98 centimes (18.91 cents). The average yearly wages of an employé (men, women, and children, both underground and surface) were 960 francs ($185.28), and the net profit for each person employed for the year was 265 francs ($51.14½).

The number of employés for all metallurgical mines, including salt mines, was as follows: Underground, 9,277, of whom 9,206 were men and 71 were minors; surface, 4,175, of whom 3,280 were men, 596 were women, and 299 were minors.

In the iron mines, employing 4,334 persons underground and 906 at the surface, the average yearly wages were 1,140 francs ($220.02) for the underground employés and 840 francs ($162.12) for those at the surface. The average daily wages were 4.50 francs (86.85 cents) for the employés underground and 3.25 (62.73 cents) for those at the surface.

In the other metallurgic mines, employing 4,022 persons underground and 2,881 at the surface, the average yearly wages were 1,005 francs ($193.97) for the former and 660 francs ($127.38) for the latter, and the average daily wages for the same classes are, respectively, 3.75 and 2.50 francs (72.38 cents and 48.25 cents).

In bituminous and other diverse substance mines, employing 735 persons underground and 238 at the surface, the average yearly and daily wages were, respectively, 1,090 francs ($210.37), and 4 francs (77.2 cents) for the former and 715 francs ($138) and 2.80 francs (54.04 cents) for the latter.

In the rock-salt mines, employing 186 persons underground and 150 at the surface, the average annual wages of those working underground were 1,125 francs ($217.13) and 4.25 francs (82.03 cents) per diem, and of those employed at the surface 920 francs ($177.56) and 3.30 francs (63.69 cents) for the same units of time.

Statistics of mines other than coal in France for the year 1892.

Departments.	Number of employés in the mines.	Iron mines other than surface mines.		Other mines of metals.		Mines of diverse substances.		Salt mines (not including salt taken from the sea).	
		Daily wages.		Daily wages.		Daily wages.		Daily wages.	
		Underground.	Surface.	Underground.	Surface.	Underground.	Surface.	Underground.	Surface.
		Francs.	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*	*Francs.*
Ain	81	....	....	....	....	3.03	2.36	....	....
Allier	174	....	....	3.87	2.08	3.40	2.77	....	....
Alpes (Basses)	14	....	....	....	....	4.34	3.73	....	....
Alpes (Hautes)	86	....	....	3.22	2.76	....	....	....	....
Ardèche	363	3.97	2.99	3.29	2.39	....	....	....	....
Ardennes	0	....	....	....	....	....	....	....	....
Ariège	580	2.01	2.12	3.20	2.40	....	....	....	....
Aude	99	2.48	2.00	3.08	1.57	....	....	....	....
Aveyron	740	3.53	2.60	4.07	2.64	....	....	....	....
Bouches du Rhône	0	....	....	....	....	....	....	....	....
Calvados	156	4.63	3.61	....	....	....	....	....	....
Cantal	29	....	....	3.58	3.02	....	....	....	....
Corrèze	39	....	....	3.95	2.55	....	....	....	....
Corse	472	....	....	3.36	2.08	....	....	....	....
Côtes du Nord	3	....	....	3.25	2.50	....	....	....	....
Creuse	39	....	....	2.67	1.62	....	....	....	....
Dordogne	20	4.50	3.50	3.36	2.75	....	....	....	....
Doubs	4	....	....	....	....	....	....	....	4.19
Drôme	118	....	....	4.13	2.78	....	....	....	....
Gard	1,025	....	....	3.71	2.69	3.54	2.87	....	....
Garonne (Hautes)	1	....	....	....	....	....	....	....	3.00
Hèrault	62	3.31	1.99	4.07	....	....	....	....	....
Ille-et-Vilaine	1,054	....	....	3.71	2.15	....	....	....	....
Indre	11	....	....	3.18	3.18	....	....	....	....
Isère	306	4.00	2.50	1.00	....	....	....	....	....
Jura	8	4.70	3.00	....	....	....	....	....	3.50
Landes	35	....	....	....	....	....	....	3.14	2.56
Loire	8	....	....	3.00	3.00	....	....	....	....
Loire (Haute)	49	....	....	3.72	3.04	....	....	....	....
Lozère	134	....	....	3.03	3.02	....	....	....	....
Main-et-Loire	46	3.51	3.08	....	....	....	....	....	....
Manche	156	5.20	3.59	....	....	....	....	....	....
Meurthe-et-Mozelle	3,589	4.81	3.45	....	....	....	....	4.51	3.60
Puy-de-Dôme	480	....	....	2.60	1.96	5.13	4.07	....	....
Pyrénées (Basses)	226	....	....	4.81	2.85	....	....	3.15	2.59
Pyrénées (Hautes)	228	....	....	4.43	2.51	....	....	....	....
Pyrénées-Orientales	268	3.51	3.18	2.43	2.39	....	....	....	....
Rhin (Haute) [Belford]	115	....	....	3.06	3.08	....	....	....	....
Rhône	494	....	....	4.73	3.19	....	....	....	....
Saône (Haute)	1	....	....	....	....	....	....	....	3.04
Saône et Loire	951	4.08	3.34	4.19	2.62	4.34	2.78	....	....
Savoie	5	3.93	3.57	....	....	....	....	....	....
Savoie (Haute)	10	....	....	....	....	2.82	2.75	....	....
Tarn	322	3.29	1.67	3.47	2.11	....	....	....	....
Var	789	3.70	2.50	3.95	2.95	....	....	....	....
Vaucluse	62	....	....	....	....	4.38	3.47	....	....
Total	13,452	4.49	3.27	3.73	2.52	4.05	2.77	4.24	3.30

STEPHEN H. ANGELL,
Commercial Agent.

ROUBAIX, *May 10, 1894.*

COMMERCE OF THE KONGO.

The Belgian Government has lately published official statistics of the commerce of the Kongo for the year 1893. The exports of the Free State during this period amounted to $1,197,784. If the French and Portuguese possessions be added, the total would be $1,450,354.74. Of this latter sum, the value of the merchandise destined for Belgium was $614,685.87. The quantity and value of the principal exports were:

Articles.	Quantity.	Value.
	Pounds.	
Ivory	409,908	$717,701
Palm nuts	8,940,583	172,976
India rubber	531,646	147,763
Palm oil	2,838,317	118,524
Total	12,720,454	1,156,964

Holland purchases half of the India-rubber product, a third of the palm oil and palm nuts, and the entire products of red and white copal. Germany and England are the countries which, next to Holland, receive the greatest quantity of the productions of the Kongo. Belgium, however, is the market for almost all the ivory, the most precious of its exports.

The articles of merchandise imported into the Kongo are too numerous to be mentioned in detail. The principal imports for 1893 were:

Articles.	Value.	Articles.	Value.
Textile fabrics of all kinds	$599,763.03	Locomotives and railway cars	$44,825.00
Canned and preserved food	173,985.00	Cannons	36,632.00
Brandies	133,494.00	Wines	33,897.00
Food commodities	132,883.00	Beers	26,210.00
Hardware	55,531.00	Cartridges	22,476.00
Powder	53,759.00	Total	1,366,054.00
Clothing	52,599.00		

HENRY C. MORRIS,
Consul.

GHENT, *July 23, 1894.*

ARTIFICIAL LIMBS IN GERMANY.

Some time ago an American who had come to Germany with the object of introducing a truss of American manufacture and patent, presented himself at the consulate and applied for letters of recommendation to the medical authorities of the neighboring university cities (Erlangen and Purzburg). I supplied him with the necessary letters, and now learn that his patented article is acknowledged, by competent experts, not only to be well adapted for its purposes, but certain of extended use in this country in the near future.

In connection with my efforts in this matter, my attention was called to the fact that a product of American manufacture closely related to the above, namely, artificial limbs, could, without the slightest doubt, not only be easily introduced into Germany but would even be given the preference over the home manufacture, provided the difficulty of ordering, which, unfortunately, obtains in introducing many articles of American origin, could be obviated. Dr. Max Jungengel, one of the ablest surgeons in Bavaria, for many years first assistant at the surgical clinic of the University of Purzburg, and at present chief physician of the local city hospital, informed me that it has long been a matter of regret in German medical circles that the excellent artificial limbs manufactured in the United States do not find their way to this country, as they are far superior in point of durability, lightness, and graceful and ingenious construction to the German article. The reason it is so difficult to secure this American product is, he stated, the remarkable fact that no American firm manufacturing it has yet sent representatives here.

The authority mentioned further remarked that it would not be necessary for a stock of such goods to be kept on hand in this country. It would suffice if competent agents, supplied with means for measuring and taking plaster casts, were stationed in the larger cities, especially at the principal university centers. Such agencies would, he thought, be exceedingly profitable from the moment of their establishment. It is a peculiar, but nevertheless true, circumstance that the manufacture of artificial limbs is in a very backward state in Germany, in spite of the encouragement naturally furnished by the existence of numerous universities and the acknowledged ability of German surgeons. The development of this industry is even intrusted, to some extent, to the hands of incompetent parties. This is demonstrated by the heavy construction of the artificial limbs to be seen in the display windows of depots for surgical appliances in large German cities.

In reply to my objection that the demand for such articles is comparatively unimportant, and that only persons of means can afford to purchase them, Dr. Jungengel informed me that in Germany there are societies for the sole purpose of supplying poorer persons losing limbs with the necessary artificial ones. As regards the supposed small demand for such articles, he replied that in the clinics of smaller hospitals at least ten to twenty amputations are performed weekly, and that this number is greatly exceeded at the university clinics. Besides this, the private practice of more than six thousand German physicians must be taken into consideration.

The duty levied on artificial limbs imported into Germany varies from 6 to 15 cents per kilogram (2.2046 pounds), according to the material of which they are manufactured.

After these statements, it would seem that the extension of this industry, of which the United States is the foremost representative, would well repay the efforts necessary for its establishment in Europe.

LOUIS STERN,
Commercial Agent.

BAMBERG, *June 11, 1894.*

A NEW DISINFECTANT.

The technical journal issued by the Bavarian Polytechnic Society contains in its last number an interesting report relating to "formalin," a new composition for disinfecting and preserving purposes. According to this journal, which is reputed to be the best of its kind in the Kingdom of Bavaria, formalin is a 40 per cent solution of the gas-like composition called "form-aldehyde" (C H O H), and is produced by oxidation of wood spirit (methyl alcohol). It has demonstrated itself to be a perfectly harmless means for disinfecting purposes; for preventing and destroying bacilli, and removing obnoxious odors, such as those arising from sulphuric acid combinations, through chemical reaction, without in turn creating any odor whatever. On account of its poisonous properties it cannot be taken internally, either in concentrated or weak solutions. For most purposes one tablespoonful of formalin to one quart of water is sufficient. An extra advantage is the fluidity of this new chemical composition, in consequence of which its penetrable properties are greatly increased. Its fumes are hurtful only when inhaled in considerable quantities. Formalin saturates animal tissues very rapidly and prevents their decay. When sprayed it is very serviceable for disinfecting and purifying the atmosphere.

Formalin is admirably adapted for disinfecting objects of every description, such, for instance, as hotels and schoolrooms, stables, slaughterhouses, cars for transporting meat, cabins, and holds of ships, kitchens, cupboards, etc., for which purpose the formalin solution is placed in any suitable apparatus and sprayed under pressure. To remove the odor of this chemical, which is not at all disagreeable, a short exposure to the air is sufficient. In this manner walls and curtains, sofas, beds, etc., can be disinfected without the slightest risk of injury to material or color.

It will thus be seen that formalin is particularly valuable for the use of health officers at ports and elsewhere. A solution of formalin is also exceedingly well adapted for use in soaking infected linen and clothing, and in rinsing vessels used in sick rooms.

Formalin powder and formalith sheets are employed for disinfecting furniture, reservoirs, etc. These forms of formalin are produced by saturating chalk paste with 50 per cent of the chemical.

Floors and other large surfaces are disinfected by strewing with impalpable formalin powder, or washing with a solution of it. Small articles are placed in chests with the above-mentioned formalith sheets. Rags, when strewn with formalin powder, can be kept closely packed together. This same powder, or the solution, serves admirably also for disinfecting and deodorizing the bilge water of ships and steamboats.

The solution can be given any perfume preferred, and, when sprayed in sick rooms, removes at once the odor peculiar to the latter. In all cases enough formalin should be used to render its characteristic odor plainly perceptible.

Meat, game, fowls, fish, etc., if dipped into a solution of formalin, remain fresh for a long period without getting a disagreeable taste or the odor of decay. Meat, which has already begun the process of disintegration, and is only in the first stages of decay, can be rendered odorless by simply dipping it into the solution for one or two minutes and washing with the same. The cause of the disagreeable odor is removed.

Regarding the use of formalin in the preparation of butter and cheese, sufficient data, the journal says, have not as yet been secured; but it has been shown to be very well adapted for cleaning the vessels and machinery employed in dairies.

Formalin is of special importance for slaughterhouses and meat shops, for preserving fish (during transportation) and fruit, the latter being dipped or placed for a short time in a weak solution of the chemical.

While the discovery of formalin proper dates back a few years, its valuable properties, as a composition for disinfecting and preserving purposes, have only recently been made known.

LOUIS STERN,
Commercial Agent.

BAMBERG, *June 9, 1894.*

HAMBURG DISINFECTING ESTABLISHMENT.

The new disinfecting establishment, the building of which was commenced last year, is now finished. It is situated on the Bullerdeich, with one side on the canal, called the "High-water Basin," so that it is accessible as well from the land as from the water. Goods from ships intended for disinfection, or articles subject to quarantine which are to be disinfected, can therefore be brought to the establishment without touching the city.

The establishment consists of a main building, two sheds built of stone, and a house for the three highest officials. The whole concern is divided into a "clean" and an "unclean" side. The entrance on the Bullerdeich is through an iron gate on a large yard, one side of which is formed by the main building. Between the east side of this building, which forms the greater part of the establishment, and one of the two sheds, there is a wall, and, in the latter, an iron gate which closes off the unclean side. In the high cellar of the main building, filled with pipe heating and ventilating apparatus, is the entrance for women, through which one passes into an undressing room. Close to this room is a small lift by which the clothes are raised to the cleaning room for disinfection. Next to the undressing room there is a bathroom with two douches and two zinc tubs, from which a second door leads to the dressing room, where the clothes that have been disinfected and dried during the bath are delivered by the lift. The dressing, undressing, and bathrooms for men are arranged in the same practical manner, with the exception only that the bathroom contains ten douches and no bath tubs. Entirely separate from this department, and accessible only from the clean side, is a large waiting room in the underground story, fitted up for 50 to 60 employés; also a large storeroom containing an outfit for several hundred persons to be employed for the different disinfections in private houses.

The outfit of a squad of three men consists, for each, of a long linen coat and a Levant sponge to be tied before mouth and nose to prevent the inhaling of infectious matter. Each squad is also supplied with an iron ladder, which can be lengthened at will, and with boards to prevent the damaging of wall paper and the floor; also a lot of pails, fitting one into the other. A tin box contains sixty-three different articles, among which are brushes of different kinds, as they are necessary for a thorough cleaning of rooms; towels and dusters, a hammer, nails, and glue, the latter to be used for making small repairs; polishing powder and Vienna clay for polishing brass articles, a scraper for cleaning the crevices of the floor, knives, etc.

The disinfecting is done with diluted carbolic acid, and that of furs with bicloride of mercury.

Those apartments which are not papered or painted with oil paint are, after the disinfection, painted with paint mixed with glue by the men of the squad, to avoid causing the respective occupants any expense, and it is made the men's duty to treat the furniture, bedding, clothes, etc., with the utmost care.

Suitable men belonging to the street-cleaning department are being made acquainted with the disinfection under supervision of the chief inspector of the establishment for disinfection at the "Holstenthor," and it is intended to have one hundred street-cleaners so well trained that they can be intrusted with the command of the disinfecting squads of three men. People who are employed in this service are provided with gray uniforms, over which long linen coats are worn during work, which are also to be donned by visitors or officers of the establishment who enter the unclean side.

Next to the storeroom is a large tailor's workshop, as repairs are to be made at once in the establishment.

On the ground floor, which is completely separated from the cellar, the division into a "clean" and "unclean" side is just as strictly carried out.

The disinfecting room proper contains one small and four large disinfecting apparatuses. The iron receptacles, which are similar to large casks or drums, are placed in the middle of the unclean room and are filled with the articles requiring disinfection. The disinfection is done in such a way that air heated to 60° Celsius is introduced into the apparatus first, and, after the articles have been exposed to this heat for some time, steam heated to 108° Celsius is introduced, which temperature is kept up for about fifteen minutes or longer, according to how rapidly or slowly the article is permeated with the heat. By this process, every living thing and every germ is killed.

After the disinfecting has thus been finished, the steam is shut off and the articles are dried again by heated dry air.

On the side of the apparatus, opposite the door through which the articles are brought in, there is another door where the articles are taken out, and which opens into the clean department. From there the articles are either immediately sent to the dressing rooms by means of the lifts, or made ready for delivery.

In the main part of the building there is also a large bathroom, with several douches, for the employés of the establishment, affording them the opportunity of complying with the requirement to take a bath before leaving the place.

Separated from the engine room by a wall, there is a place for drying the washing of the establishment. Two large boilers supply steam of three atmospheres pressure for disinfecting as well as for heating all the rooms in the main building. Next to the engine room, there is a place for coal and a repair shop.

In the shed, on the unclean side, there is a stable for ten horses and a storeroom for their feed. Next to the stable, there is a coach house for the wagons intended to fetch the unclean articles, and a wash room which is open on that side which faces the yard. In this yard, on the canal, is a hand crane for lifting heavy articles, and also a large cistern into which all the dirty water of the establishment is conducted and then disinfected with lime. On the clean side of the yard is another shed, which serves as a coach house for the wagons which take the disinfected articles away.

The wagons are built entirely of iron, have a large door at the back, and two smaller doors on the right side, of which the one leads to the loading space and the other to the space set aside for the attendants. The color of the wagons is dark green, with a gray stripe, the lighter or darker shade designating the wagon as a "clean" or "unclean" one. In a separate room of this shed are two movable disinfecting apparatuses, which can be used outside of the establishment if necessary. The steam required is in this case generated in an upright boiler.

The establishment now has twelve wagons for articles, two carriages with glass windows for people, and a large number of hand cars.

On the clean side, on the canal, is a place for the launch which belongs to the establishment.

The establishment is in direct communication with all police stations, and is also provided with a telephone, which places it within easy reach of the public.

The fourth building, as already mentioned, contains apartments for the inspector and other higher officials.

W. H. ROBERTSON,
Consul.

HAMBURG, *June 9, 1894.*

AMERICAN TRADE WITH PUERTO RICO.

Many circulars are received from manufacturers and merchants in the United States for distribution at this consulate, and often an inquiry accompanies them as to the best manner in which to introduce their goods. To the latter question the invariable answer has been only through a reliable and accredited agent, either resident here, or, what is much better, sent direct from the United States. The sending of circulars and advertising matter for distribution in an unsystematic and haphazzard way is a mere loss of time and money without result.

To fully appreciate this, and to introduce new goods successfully, it is necessary to understand the character of the people with whom one has to deal and to study their wants and necessities. The Spanish character is inclined to be suspicious of unknown business houses, and the best way to overcome this difficulty is by personal contact. Again, the Spanish character is eminently conservative and slow to accept changes when it has once been satisfied. If an article has been tried and found good it clings to it most tenaciously, and will not give it up except for good and sufficient reasons. For instance, a machete bearing the name of "Collins" is a current passport for the standard of merit in that article, and it enjoys a well-established and deservedly good reputation that nothing can break down, although the German machete is sold much cheaper.

Not only are a trade-mark and name upon an article carefully scrutinized, but so is the manner of packing it, the envelope containing it, and its general appearance. After a trade is established, these characteristics must be preserved, as they are, to a great extent, a part of the selling merit of the article; and a change or variation, even in a slight particular, will cause a corresponding loss in trade. The mercantile houses which have been established longest in business, especially English and German, will understand this and are very careful, after once establishing a line of trade, to adhere to it in the minutest detail and never make a change except for some good reason. An instance will illustrate this fact. I saw in the office of a merchant certain spools of thread bearing the name of an English firm. The spools were clumsy and uninviting in appearance, and I remarked that thread in the United States was prepared in a neater and more attractive form than his article. He replied: "That may be true, but, if that spool was changed in any way, I would lose my trade in that special thread." This shows to what detail outward form and appearance are held by the people.

I do not wish to convey the idea that advertising is of no use in Spanish-speaking countries; but I do mean to say that, unless it is systematically conducted and reinforced by an active and reliable agent, it is useless to expect any good results from it.

The requirements necessary to introduce an article successfully into Puerto Rico trade are, first, to find out in what shape to prepare each article so that it will be best adapted to the wants of the people, and then adhere strictly to it; second, to have an article with merit at fair prices; third, to have a capable and energetic agent in the island for some time; fourth, immediate returns must not be looked for, as it will take several months to establish a trade, but after it is once established it is easily held and controlled, and is profitable; lastly, long terms of credit are desirable here, as in all Spanish-American countries, but are not insisted upon as an absolute condition of sale.

Spanish-American trade is not to be obtained without some labor, trouble, and expense.

JOHN D. HALL,
Consul.

SAN JUAN, P. R., *July 18, 1894.*

TRAFFIC OF THE MANCHESTER CANAL.

I have the honor to transmit herewith statistics of the foreign traffic through the Manchester Ship Canal, which I have collated with some difficulty, deeming that they may be of interest as supplementary to the report prepared in accordance with the Department's instructions and forwarded June 9.*

Six months' imports at Manchester, January 1 to June 30, 1894.

Name of vessel.	Whence.	Date.	Tonnage.	Cargo.
From the United States.				
Finsbury	Galveston	Jan. 16	1,174	4,170 bales cotton (order).
Glenisle	do	Jan. 18	1,248	4,929 bales cotton.
Venango	New Orleans	Jan. 20	1,904	3,898 bales cotton, 63,762 bushels corn, etc.
Ohio	do	Feb. 3	1,568	4,301 bales cotton and 50,400 bushels wheat.
Black Prince	do	Mar. 8	960	3,346 bales cotton and 1,992 bags oil cake.
Ernest (bark)	Wilmington, N. C	Mar. 22	659	5,755 barrels resin.
Normanvik (bark)	Mobile, Ala	Apr. 6	711	Pitch-pine logs and deals.
Ambrose	Philadelphia	Apr. 7	4,292	4,292 barrels lubricating oil.
Asiana	Mobile, Ala	Apr. 7	1,185	Pitch-pine boards, hewn timber, etc.
Other ports of America.				
Grace Gibson (bark)	Nicaragua	Jan. 3	509	700 tons fustic.
Nordenskjold (bark)	Belize	Jan. 4	284	235 tons logwood.
E. S. Hockin (bark)	Mexico	Jan. 20		350 tons logwood.
Argo (bark)	Jamaica	Feb. 13	661	616 tons logwood roots.
Caesar (bark)	do	Feb. 15	452	441 tons logwood.
Messina (bark)	Mexico	Mar. 2	269	285 tons logwood.
Ilma (bark)	Haiti	Mar. 3	437	448 tons logwood.
Gem (bark)	Trinidad	Mar. 8	139	Asphalt.
Vestfold (bark)	Savannah-La-Mar, St. Domingo.	Mar. 13	486	448 tons logwood.
Quelle (bark)	Montigo Bay, Jamaica	Mar. 13	563	634 tons logwood.

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*See CONSULAR REPORTS for July, No. 166, p. 499.

Six months' imports at Manchester, January 1 to June 30, 1894—Continued.

Name of vessel.	Whence.	Date.	Tonnage.	Cargo.
Ebenezer (bark)	Old Harbor, Jamaica	Mar. 17	518	618 tons logwood roots.
Eglantine (bark)	Morant Bay, Ja	Apr. 13	311	314¾ tons logwood.
Otto (bark)	do	May 3	372	471 tons logwood.
Christine (bark)	Jamaica	May 22	373	369¾ tons logwood.
Cosmopolitan (bark)	Rosario, Argentine Republic	June 16	495	13,323 bags wheat.
Marie Casabona (bark)	Chatham, N. B.	June 25	624	624 tons deals.
*All other places.**				
Pioneer	Rouen	Jan. 1	276	4,350 packages sugar and 355 cases condensed milk.
Sophie Wilhelmina (bark).		Jan. 1	976	Deals, battens, planks, and scantling.
Ibis	Rotterdam	Jan. 2	527	Assorted cargo.
Albatross	do	Jan. 2	937	Do.
Berwick	Treport	Jan. 3	262	380,000 boulder flints and 2,200 packages sugar.
Bittern	Antwerp	Jan. 3	424	Assorted cargo.
Granada	Valencia	Jan. 3	606	9,500 cases oranges; 1,400 cases onions, etc.
Hazelmere	Huelva, Spain	Jan. 4	766	1,425 tons iron pyrites.
Viking	Rotterdam	Jan. 8	460	In ballast.
Martin	do	Jan. 8	469	Assorted cargo.
Egret	do	Jan. 8	671	Do.
Whimbrel	Antwerp	Jan. 10	391	Do.
Princess Alexandra	Bordeaux	Jan. 12	292	Do.
Acacia	Treport	Jan. 13	269	Do.
Redstart	Rotterdam	Jan. 15	553	Do.
Ibis	do	Jan. 15	527	Do.
Fez	Valencia	Jan. 15	518	7,165 cases oranges and 423 cases onions.
Berwick	Treport	Jan. 18	262	Assorted cargo.
Neva	Drontheim	Jan. 18	577	Do.
Egret	Rotterdam	Jan. 22	671	Do.
Whimbrel	Antwerp	Jan. 23	391	Do.
Martin	Rotterdam	Jan. 23	469	Do.
Trieste	Antwerp	Jan. 25	974	Do.
Comorin	Bordeaux	Jan. 26	345	Do.
Acacia	Treport	Jan. 30	269	Do.
Redstart	Rotterdam	Jan. 31	553	Do.
Ibis	do	Jan. 31	527	Do.
Bittern	Antwerp	Feb. 1	424	Do.
Bernina	Hamburg	Feb. 2	915	Do.
Mauritius	Nantes and Bordeaux	Feb. 3	323	Do.
Pioneer	Rouen	Feb. 3	276	Do.
Egret	Rotterdam	Feb. 5	671	Do.
Avalon	Valencia	Feb. 5	542	7,659 packages oranges.
Martin	Rotterdam	Feb. 5	469	Assorted cargo.
Whimbrel	Antwerp	Feb. 8	391	Do.
Erling	Frederickstadt	Feb. 9	654	97,321 pieces flooring boards.
Viking	Stettin	Feb. 9	460	Assorted cargo.
Baines Hawkins	Valencia	Feb. 9	464	Do.
Jason	Bordeaux	Feb. 9	456	Do.
Berwick	Treport	Feb. 13	262	Do.
Ibis	Rotterdam	Feb. 13	527	Do.
Redstart	do	Feb. 14	553	Do.
Comorin	Bordeaux	Feb. 16	345	Do.
Miniera	Hamburg	Feb. 16	919	Do.
Engineer	Valencia	Feb. 16	466	Do.
Bittern	Antwerp	Feb. 17	424	Assorted cargo.
Acacia	Treport	Feb. 17	269	Do.
Erget	Rotterdam	Feb. 19	671	Do.

*Coasting vessels not included.

Six months' imports at Manchester, January 1 to June 30, 1894—Continued.

Name of vessel.	Whence.	Date.	Tonnage.	Cargo.
All other places—Con.				
Starling	Rotterdam	Feb. 20	453	Do.
Whimbrel	Antwerp	Feb. 21	391	Do.
Martin	Rotterdam	Feb. 26	469	Do.
Mauritius	Nantes and Bordeaux	Feb. 26	323	Do.
Ibis	Rotterdam	Feb 26	527	Do.
Pioneer	Rouen	Feb. 26	276	Do.
Princess Alexandra	Oran	Mar. 1	292	Cork wood (for Glasgow.)
Berina	Hamburg	Mar. 2	916	Assorted cargo.
Ousel	Antwerp	Mar. 3	555	Do.
Egret	Rotterdam	Mar. 5	671	Do.
Starling	do	Mar. 5	453	Do.
Acacia	Treport	Mar. 6	269	Do.
Hartside	Hamburg	Mar. 7	444	8,088 bags sugar.
Harold	Valencia, etc	Mar. 7	392	Oranges.
Comorin	Bordeaux	Mar. 8	345	Assorted cargo.
Whimbrel	Antwerp	Mar. 9	391	Do.
Pioneer	Rouen	Mar. 12	276	Do.
Ibis	Rotterdam	Mar. 12	527	Do.
Martin	do	Mar. 13	469	Do.
Mauritius	Bordeaux	Mar. 16	323	Do.
Berwick	Treport	Mar. 16	262	Do.
Engineer	Valencia	Mar. 19	466	Do.
Ousel	Antwerp	Mar. 19	555	Do.
Minerva	Gothenburg	Mar. 19	428	Do.
Starling	Rotterdam	Mar. 19	453	Do.
Miniera	Hamburg	Mar. 19	919	Do.
Sweedish Prince	Alexandria	Mar. 20	1,060	Do.
Ludwig Possehl	Dunkirk	Mar. 20	351	In ballast.
Bittern	Rotterdam	Mar. 20	424	Assorted cargo.
Acacia	Treport	Mar. 20	269	Do.
Sapphire	Burriana, etc	Mar. 22	560	Oranges.
Whimbrel	Antwerp	Mar. 22	391	Assorted cargo.
Primrose (bark)	Candia	Mar. 22	104	Olive oil.
Martin	Rotterdam	Mar. 27	469	Assorted cargo.
Ibis	do	Mar. 27	527	Do.
Bernina	Hamburg	Mar. 27	915	Do.
Amethyst	Valencia	Mar. 27	601	Oranges.
Pioneer	Rouen	Mar. 28	276	Assorted cargo.
Trieste	Genoa and Cette	Mar. 28	974	Do.
Princess Alexandra	Bordeaux	Mar. 30	292	Do.
Harold	Valencia, etc	Mar. 30	392	Oranges.
Berwick	Treport	Mar. 30	262	Assorted cargo.
Ousel	Antwerp	Mar. 30	555	Do.
British Prince	Alexandria	Mar. 31	292	Do.
Egret	Rotterdam	Apr. 2	671	Do.
Starling	do	Apr. 2	453	Do.
Ranee	Bordeaux	Apr. 5	137	Do.
Bittern	Antwerp	Apr. 6	424	Do.
Ludwig Possehl	Hamburg	Apr. 6	351	Do.
Acacia	Treport	Apr. 6	269	Do.
Martin	Rotterdam	Apr. 9	469	Do.
Ibis	do	Apr. 9	527	Do.
Neva	Gothenburg	Apr. 9	517	Do.
Pioneer	Rouen	Apr. 11	276	Assorted cargo.
Whimbrel	Antwerp	Apr. 11	391	Do.
Iron Prince	Beyrout	Apr. 13	897	Do.
Elsa	Hamburg	Apr. 13	484	Do.
Berwick	Treport	Apr. 14	262	Do.
Engineer	Spain	Apr. 16	466	Oranges.

Six months' imports at Manchester, January 1 to June 30, 1894—Continued.

Name of vessel.	Whence.	Date.	Tonnage.	Cargo.
All other places—Con.				
Egret	Rotterdam	Apr. 16	671	Assorted cargo.
Starling	do	Apr. 16	453	Do.
Roseland	Huelva	Apr. 17	816	1,575 tons pyrites.
Bittern	Antwerp	Apr. 19	424	Assorted cargo.
Princess Alexandra	Bordeaux	Apr. 21	292	Do.
Minsk	Stettin	Apr. 21	514	Do.
Martin	Rotterdam	Apr. 23	469	Do.
Harold	Spain	Apr. 23	392	Oranges.
Laboe	Hamburg	Apr. 23	466	Assorted cargo.
Ocean Mail (bark)	Christiana	Apr. 23	391	450 tons block ice.
Ibis	Rotterdam	Apr. 25	527	Assorted cargo.
Pioneer	Rouen	Apr. 25	276	Do.
Whimbrel	Antwerp	Apr. 26	391	Do.
Royal Prince	Alexandria	Apr. 26	1,114	Do.
Frutera	Spain	Apr. 24	638	7,220 cases oranges.
Niobe	Bordeaux	Apr. 27	289	Assorted cargo.
Berwick	Treport	Apr. 27	262	Do.
Starling	Rotterdam	Apr. 30	453	Do.
Rydal Fell	Spain	May 1	558	5,441 cases oranges.
Egret	Rotterdam	May 2	671	Assorted cargo.
Acacia	Treport	May 3	269	Do.
Narangua	Valencia	May 3	659	8,528 cases oranges and 31 pipes wine.
Comorin	Bordeaux	May 3	345	Assorted cargo.
Bittern	Antwerp	May 4	424	Do.
Martin	Rotterdam	May 7	469	Do.
Neva	Gothenburg	May 8	577	Do.
Elsa	Hamburg	May 8	484	Do.
Ibis	Rotterdam	May 9	527	Do.
Whimbrel	Antwerp	May 9	391	Do.
Pioneer	Rouen	May 9	276	Do.
Princess Alexandra	Bordeaux	May 9	292	Wine, oil, and 40 bales wool.
Elfrida	Valencia	May 10	310	4,500 cases oranges.
Merchant Prince	Alexandria	May 11	1,006	Assorted cargo.
Berwick	Treport	May 12	262	Do.
Egret	Rotterdam	May 15	671	Do.
Starling	do	May 15	453	Do.
Peveril	Spain	May 15	436	6,037 cases oranges.
Bittern	Antwerp	May 17	424	Assorted cargo.
Hazelmere	Hamburg	May 21	766	Do.
Pioneer	Rouen	May 21	276	Do.
Martin	Rotterdam	May 21	469	Do.
Acacia	Treport	May 21	269	Do.
Minerva	do	May 21	428	Wood sleepers, etc.
Harold	Spain	May 21	392	6,619 cases oranges.
Ibis	Rotterdam	May 23	527	Assorted cargo.
Whimbrel	Antwerp	May 23	391	Do.
Comorin	Bordeaux	May 25	345	Do.
Berwick	Treport	May 28	262	Do.
Starling	Rotterdam	May 28	435	Do.
Trieste	Riga	May 28	1,138	Sleepers, laths, etc.
Charles Steels	do	May 28	738	Sleepers, sleeper blocks, etc.
St. Jernen	Christiana, etc	May 29	329	Wood pulp.
Egret	Rotterdam	May 29	671	Assorted cargo.
Bittern	Antwerp	May 31	474	Do.
Rydal Fell	Spain	May 31	358	Oranges.
Jessica	Hamburg	June 1	348	Assorted cargo.
Thor (bark)	Porsgrund	June 4	328	470 tons ice.
Bordlaux	Sundsvall	June 4	353	Boards, deals, etc.

Six months' imports at Manchester, January 1 to June 30, 1894—Continued.

Name of vessel.	Whence.	Date.	Tonnage.	Cargo.
All other places—Con.				
Martin	Rotterdam	June 5	469	Assorted cargo.
Pioneer	Rouen	June 5	276	Do.
Ibis	Rotterdam	June 6	527	Do.
Acacia	Treport	June 7	262	Do.
British Prince	Alexandria	June 7	1,402	Do.
Whimbrel	Antwerp	June 7	391	Do.
Elfrida	Spain	June 8	410	Do.
Neva	Baltic, etc	June 9	577	Do.
Loughbrow	Spain	June 9	446	Do.
Starling	Rotterdam	June 11	453	Do.
Berwick	Treport	June 11	269	Do.
Comorin	Hamburg	June 11	345	Do.
Sweedish Prince	Beyrout, etc	June 12	1,063	Do.
Egret	Rotterdam	June 13	671	Do.
Bittern	Antwerp	June 15	424	Do.
Pioneer	Rouen	June 18	276	Do.
Frutera	Valencia, etc	June 18	638	Do.
Princess Alexandra	Bordeaux	June 18	292	Do.
Martin	Rotterdam	June 18	469	Do.
Ibis	do	June 20	527	Do.
Whimbrel	Antwerp	June 21	391	Do.
Acacia	Treport	June 22	269	Do.
Niobe	Nantes	June 22	289	Do.
Laboe	Hamburg	June 23	464	Do.
Petrel	Rotterdam	June 25	462	Do.
Berwick	Treport	June 26	269	Do.
Egret	Rotterdam	June 26	671	Do.
Rajee	Skien	June 27	1,063	Deals and wood pulp.
Bittern	Rotterdam	June 28	424	Assorted cargo.

Recapitulation.—From the United States 9 vessels of 10,165 tons; from other ports in America, 16 vessels of 6,503 tons; from all other places, 190 arrivals, viz, 57 vessels of 31,881 tonnage entered; total, 215 arrivals.

Arrivals at Runcorn, published in bill of entry of June 27, 1894.

Name of vessel.	Whence.	Date.	Tons.	Cargo.
Carl Hansted (bark)	Rosario, Argentine Republic	June 19	849	19,320 sacks wheat.
P. G. Blanchard (bark)	West Bay, Nova Scotia	June 19	1,250	Boards, etc.
Eleanor Thomas	Hamburg	June 22	90	Waste salt.
Stanley Force	Treport	June 23	136	Flints.
Premier	Jersey	June 23	196	China stone.
Terzo	West Bay, Nova Scotia	June 25	1,027	Deals and scantling.

W. F. GRINNELL,
Consul.

MANCHESTER, *June 30, 1894.*

BEE FERTILIZATION OF FRUIT BLOSSOMS.

A great deal has been said and written about the utility of the bee to fruit and vegetable growers, and it is always instructive and interesting to read of practical experiments by some one who has made bee and fruit culture a life study, and can demonstrate his results from actual trials. Such a man is the Swiss apiarist Mr. Theiler, of Rosenberg, Canton Zug, Switzerland, known all over this country as an experienced bee-cultivator and agriculturist. He writes as follows:

> I made some experiments in the spring of 1891 to ascertain positively whether the bees are useful or injurious to the fruit and vegetable flowers in extracting the honey therefrom. I began my experiments by selecting a cherry tree, yielding annually a large quantity of fruit. I covered part of its branches before blossoming time with a very fine netting, preventing thereby the bees from getting at the blossoms when making their appearance. The netting was so arranged as not to prevent full development of leaves and flowers, or to injure them in any way. When the blooming time had passed, I removed the netting, but could not discover any results, as the branches of the whole tree were all well covered with blossoms; but two weeks later, upon close examination, I found that, while all the branches I had not disturbed on the tree were laden with flowers, those I had experimented on and which had been covered with netting had dropped over three-quarters of their flowers. Upon another examination, on July 4, I was unable to find a single cherry on the branches experimented on, while those left exposed were covered with fine fruit. I also covered the middle branches of a dwarf pear tree yielding a good crop annually, with the same kind of netting. The netting was so light that air could well circulate, and the sun's rays reach the protected branches as well as if none were used. After blossoming time the netting was also removed, and upon close examination I found the same result as on the cherry tree. Not a single pear had set, while on the unprotected part of the tree the crop was abundant. I have also made similar experiments with apple, plum, and peach trees, with beans, pease, squashes, mellons, and other vegetables, reaching invariably the same results.
>
> The reason for all this is apparent. The flowers visited by bees, wherefrom they extract their honey, will set fruit, while those covered up to prevent the bee from reaching them will drop their blossoms because they were not fertilized. Like animals, so plants (their blossoms), require fertilization, the latter by the pollen being conveyed from one flower to another, thus insuring not only the complete fertilization of the seed by the male pollen, improving the fruit, but actually increasing its production, and this object is accomplished by the bee. Flying, as she does, from one flower to another, extracting honey, the pollen adheres to her hairy body, which she carries (involuntarily) to other flowers and thus fertilizes the same. If in April and May the weather is cold and damp, accompanied by cold winds or snow, the bees will not leave their hives, and thus fail to accomplish their task. The result will be that, while the trees or plants will all be well covered with flowers, these fail of fertilization and the fruit and vegetable crop will be almost a failure. It therefore follows that a well-attended apiary in an orchard will not only give good returns in honey, but at the same time insure a bountiful fruit crop of superior quality.

EUGENE GERMAIN,
Consul.

ZURICH, *April 20, 1894.*

SHIPPING CHARGES IN ECUADOR.

I transmit herewith, in accordance with Department instructions of April 6, 1894, a communication and translation of the same, from I. F. Noboa, collector of customs at Guayaquil, showing the charges to which ships are subjected in Ecuador, together with specific answers to the propositions contained in the Department instructions.

SAILING SHIPS AT GUAYAQUIL.

Light dues.—Each sailing vessel pays 5 cents* (centavos of a sucre) for each registered ton for each light-house. There are four light-houses.

Stamp duties.—(1) General manifest; (2) permit to discharge; (3) permit to load; (4) dispatching; each 10 sucres ($4.57), or $40 sucres ($18.28) for all; visiting on anchoring, 20 centavos; visiting on clearing, 20 centavos.

Pilot dues.—From Puna to Guayaquil and office of captain of the port, 2.50 sucres ($1.142) per foot of draft for pilotage for entering and departing; to the pilots for bringing to the wharf and sheering off, 6.40 sucres ($2.92).

Captain-of-the-port dues.—Dues, 4.80 sucres ($2.19); crew list 1.80 sucres (82 cents); opening the hatchets by two experts, 16 sucres ($7.31).

Wharf dues.—For each day each sailing ship pays as follows:

Tonnage of ships.	Dues.	
	Sucres.	
Up to 10 tons	2.00	$0.914
11 to 30 tons	5.00	2.285
30 to 60 tons	6.00	2.742
60 to 100 tons	8.00	3.656
100 to 150 tons	10.00	4.570
150 to 200 tons	12.00	5.484
200 to 300 tons	16.00	7.312
300 to 400 tons	18.00	8.226
For every 100 tons above 400 tons	4.80	2.193

Municipal dues.—For each ton of register, 2 centavos; bill of health, 5 sucres ($2.205); dispatching at sailing, 6.40 sucres ($2.92); judge of commerce, 80 centavos (36 cents); postmaster, 2.01 sucres (91.8 cents); stamped paper, 40 centavos (18 cents).

STEAMSHIPS AT GUAYAQUIL.

Steamships pay one-half the light dues and 40 sucres ($18.28) for discharging when they do so, for steamers are not brought to the mole.

OTHER ECUADORIAN PORTS.

At the port of Manta there are two light-houses to pay for, in Esmeraldas one light-house, but none in Bahia de Carragues. In these ports there are no wharves and no corresponding dues.

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*On July 1, the sucre was valued at 45.7 cents by the United States Treasury, so that the 5 cents or centavos mentioned are equal to 2.285 American cents. The reductions into American money in this report were made in the Bureau of Statistics.

OBSERVATIONS.

Ecuadorian vessels are taxed as property of the owners.

Light dues are applied to the maintenance of light-houses. Stamp duties are applied to the general expenses of the Government. Pilot dues go to the pilots. Captain-of-the-port dues go to that officer and to the experts. Municipal dues go to the city.

Ecuadorian vessels are not compelled to take pilots at Puna. Indeed, these vessels are all small craft and pilot themselves. They are not compelled to go to the wharf, but if they go there they pay the same charges as foreign ships.

The regulations above given apply to vessels coming from without the waters of the Republic. The variety of river craft is infinite, from steamboats to balsas and canoes. These come and go, subject to municipal regulations. The steamboats have wharfs (piers) of their own, and the small craft land at the wharves of their consignees, or, if laden with fruit or vegetables, at the stone piers of the market.

GEO. G. DILLARD,
Consul-General.

GUAYAQUIL, *July 3, 1893.*

EUROPEAN TEXTILE EXPORTS.

The following shows the percentage share which the different European countries take in the exports of textile fabrics:

England takes the lead with 52 per cent; France follows with 17¾ per cent, and Germany comes third with 17⅓ per cent. With respect to cotton yarns, England stands first with 84⅓ per cent, while the share of Germany is only 7 per cent. In woolen yarns, England has 48¾ per cent, and Belgium 21½ per cent, followed by Germany with 17½ per cent. With woolen goods, the condition for Germany is more favorable, being 24¾ per cent, against 40 per cent for England and 29½ per cent for France. In linen yarns, the conditions are unfavorable for Germany, her share amounting to only 3 per cent of the total exports against 28 per cent for England, 43 per cent for Belgium, and 14 per cent for Austria. In linen and jute goods England takes the lead with 61 per cent and 87 per cent respectively, while for both the share of Germany is about 14 per cent. In silk goods Germany follows France with 28½ per cent, against 40 per cent for France.

WM. D. WAMER,
Consul.

COLOGNE, *July 27, 1894.*

AMERICAN BEEF FOR SWITZERLAND.

On the 11th of June last, a letter was addressed to me by Mr. Kemmler, the United States consul at Horgen, saying that he was in receipt of a letter from the Zuger Handelsgesellschaft (the Zug Board of Trade), stating that a great scarcity of cattle for slaughtering existed throughout Switzerland; that, in consequence, prices had materially advanced, and that, in fact, plans for the importation of beef cattle from South America were being arranged. Mr. Kemmler stated further that it was the opinion of the managers of the Handelsgesellschaft that beef cattle from the United States would be more satisfactory to the Swiss butchers.

Upon receipt of this communication of Mr. Kemmler, I addressed a note to the other consuls of the United States in Switzerland, asking a brief report upon the market for live and dressed beef in their respective districts. From Mr. Hinnen, the vice-consul at Berne, I received the following report:

I have interviewed the chief of the Butchers' Association in Berne, concerning the importation of American beef alive or packed. He says that some time ago the associations of Zurich, Basle, and Berne imported, through the Brothers Pulver here, a cargo of cattle from the United States; that the price was about the same as paid here, or a few centimes lower, but the meat was not nearly so satisfactory as from cattle from neighboring countries. Further, he says that the transportation was too difficult and the risk of losing a whole cargo too great. At a joint meeting of these associations, they resolved to abstain from further importation of American beef, the more so since the commercial prospects with France were (and are) daily improving; and, if the former relations between the two countries be established, there will be enough cattle from that market alone to supply the wants of Switzerland.

From Mr. Gifford, consul at Basle, I received the following report:

The largest importers of American food products in Switzerland, who are established in Basle, state that at present there is no importation whatever of fresh beef from the United States, though efforts in that direction are constantly made. The reason given for the failure is that inland European cities do not possess the large and costly establishments for the preservation of fresh meat, which would be absolutely necessary for that purpose. For years the house in question has been in correspondence with English companies who desire to introduce this article into Switzerland, France, and Germany, but so far without being able to attain the end in view. The recent failure of one of these companies to bring American beef into the principal German cities and Vienna, via Hamburg, has given rise to the conviction that the introduction of unsalted meat in inland European cities is yet an unsolved question.

In the opinion of the Basle importers, such enterprises can only gain permanent success when refrigerators are established, not only at the seaports, but in the principal cities of the Continent. This would require a large capital, complicated apparatus, and a large number of employés. And, even should these conditions be fulfilled, they believe that Australia and South America, and eventually Russia, would derive the greater advantage from the new facilities, since, in their opinion, it would be difficult for the United States to compete in price with the countries mentioned. But it is by no means necessary to share this doubt as to the ability of the United States to compete with its rivals under the proper conditions.

In any event, the American article is esteemed and would find a ready market if it were materially practicable to import it.

Jenny & Kiebiger, the importers above referred to, have sold American canned meats—corned beef, roast beef, boiled beef, ox tongue, etc., since 1876. The business is very fluctuating. Some years ago they furnished canned beef in large quantities to the Swiss military department. Subsequently the Federal Legislature, with a view of protecting home industry, caused the erection of federal canning factories; but the main purpose of these establishments failed of fulfillment, since the material used is alleged to be derived exclusively from foreign countries, especially from Austria and Hungary. The quality of the preserved beef is satisfactory, but not superior to the best American article, while it is said to cost the confederation very much more than that furnished by the United States.

Mr. Ridgely, the consul at Geneva, reports as follows:

I am of the opinion, after having carefully canvassed the question, that if a permanent and active market can be created in this city for any American product it is for dressed beef, meaning by that fresh beef already prepared to be hung up in the butcher shops and sold over the counter for daily domestic use. Whether or not beef can be so packed and transported as to arrive here from American ports in a fresh and wholesome condition, is a question with which I am not familiar. That it could be sold here, if in good condition and of first quality, I have not the slightest doubt. Whether or not it could be sold to advantage would, of course, depend upon the price. The weekly consumption in the city of Geneva and its environments is about one hundred and fifty beeves. These are sold to the butchers dressed, net—that is, without hide, horns, and intestines—at from 85 to 90 centimes per pound. The average price is 85 centimes (16.40 cents), though recently, owing to the present scarcity of beef, the market has ruled as high as 1 franc (19.3 cents) for beef of the best quality. Butchers here have a good opinion of American beef, and would be glad to see it in the market. As stated above, it must be of good condition and of first quality. In that event, it could be disposed of on the basis of the present market at from 17 to 18 cents per pound, and I have no reason to believe that prices will be lower. Moreover, from what I know of the first quality of American beef it is a superior article to the beef now sold in this market, and could easily gain a foothold. The market at present is principally supplied by Italy. The cattle are driven in over the mountains or transported by rail alive and killed here. They are of good quality, but not as good, in my opinion, as the fat cattle of the Western and Northwestern States of our country; and I am glad to say that this opinion is shared by the Geneva butchers with whom I have talked.

That other countries are looking to Geneva as a market for dressed fresh meat, is evidenced by the fact that mutton from the Argentine Republic and beef also from South America have recently been introduced here in a small way. This meat is reported to have arrived in excellent condition, and to have found a ready sale at 83 centimes (16 cents) per pound. The butchers thought well of the mutton, but they have an idea that the beef of the United States is better than the South American article. The Geneva market, I believe, could be prepared to take almost immediately fifty American beeves weekly, with a prospect of a steady increase, and there would be little difficulty in establishing an agency here. Whether or not the price at which the beef could be sold is sufficient to justify the shipper would, of course, depend upon the cost of transportation—a question which could better be answered in the United States than here. I am told that Nelson, Morris & Co., are shipping cattle alive to the port of Marseilles in considerable quantities, but none of them have arrived yet in this market.

Mr. Germain, of Zurich, reports as follows:

The failure of the hay crop last year compelled every farmer to dispose of whatever surplus animals he was possessed of. Beef cattle were, therefore, cheap throughout the season; at the beginning of this year, however, beef cattle were very scarce. The crop prospects being now good, farmers not only refuse to sell stock, but are endeavoring to purchase in order to replenish their stables; consequently desirable animals command very high figures. Butchers have, therefore, to look to foreign markets for supplies, and are shipping cattle from Italy, Germany, and Austria-Hungary. I think this is an opportune time for our American cattle men to make an effort to place some of their surplus stock.

In the year 1889 a trial shipment of American beef cattle was made via Antwerp and purchased by the Swiss Butchers' Association. Whether the venture proved remunerative to the American shippers I am unable to say, but the butchers here claim that the result to them was satisfactory. Why further shipments ceased I can not understand, and, to ascertain if the Swiss butchers would entertain propositions to purchase American cattle, I called on Mr. C. Zingg, 16 Schuetzengasse, Zurich, who is the president of the Swiss Butchers' Association ("Verband Schueizerischer Metzgermeister"), an organization controlling the purchase of all foreign beef cattle imported into Switzerland, who stated that the association he represented was ready to enter into negotiations with American cattle men with a view to the purchase of beef cattle either free on board Antwerp or delivered at the different points of consumption in Switzerland. He also said that his association could handle a shipload of about 700 head at any one time, composed of, say, 550 beeves and 150 to 200 young bulls.

To bring foreign cattle into Switzerland, a federal permit must be secured. Mr. Zingg says that such a permit is easily obtained, and generally attended to by him or his secretary. He also says that for good animals on foot he would pay about 80 francs per 100 kilograms ($16.74 per 220 pounds). The Italian and Hungarian meat is sold dressed—that is, weighing the four quarters exclusive of hide and head, which are not paid for, but thrown in gratis. Dressed beef in such a shape brings about 160 francs per 100 kilograms, net weight ($30.88 per 220 pounds). Mr. Zingg claims that Italian and Hungarian meat is superior in quality to the American, and would at all times command a higher figure; this, however, is a mere matter of conjecture, and an actual trial would soon demonstrate the truth or error of his assertion.

Transportation of cattle in car-load lots from Antwerp to points in Switzerland is about $60 per car-load of 8 to 9 head; on large shipments, however, special rates could, I think, be obtained. The customs duty on beef cattle imported into Switzerland is 15 francs ($2.90) per head. The mode of payment could easily be arranged through some New York bank having a Swiss correspondent, and the Butchers' Association is ready to pay spot cash for such shipments upon delivery. Mr. Zingg invites correspondence, and is ready at all times to give necessary information as to the details of the business, and will purchase either free on board at Antwerp or delivered in Switzerland.

So far as the city and district of St. Gall are concerned, I am informed by Mr. J. Roth, the chief of the butchers' association, that American beef is well liked, and that there would be a very fair demand for it if it could be obtained alive from dealers in Antwerp. It is thought by Mr. Roth that the city of St. Gall alone could use about 25 head (three car-loads) of beeves per week. Young bulls especially are desired, and a decided preference is expressed for the cattle of the Northwestern States. The price to be paid for such cattle would be about 75 francs ($14.50) for 100 kilograms (220.46 pounds).

It will be observed that the reports of Consuls Gifford and Ridgely deal exclusively with the question of dressed beef, and that the demand in their districts seems to be for that article. In the localities of Zurich, Horgen, and St. Gall, which are in eastern and northwestern Switzerland, the demand is emphatically for beef cattle. I am entirely satisfied that the claims put forth in favor of Italian and Hungarian meat are groundless, and that American beef would be popular and successful in the Swiss market. There is no doubt whatever of the pressing demand for beef in Switzerland, a demand so considerable that it has stimulated various inquiries, such as the one addressed to Mr. Kemmler, at Horgen.

The customs duty on beef cattle imported into Switzerland is 15 francs ($2.95) per head. A bill of health for imported cattle must be obtained from the health authorities of the port of entry. The cost of transportation from Antwerp per car-load of cattle (8 to 9 head) is about 300 francs ($57.91). The customs duty on dressed beef is 6 francs ($1.16 per 100 kilograms (220.46 pounds), and a certificate of orign must accompany each shipment.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *July 19, 1894.*

THE INDIAN BUFFALO.

This is perhaps the ugliest of the bovine genus. The skin is black, with very few scattering hairs. The horns are very long and massive, running backwards and outwards. The head is carried very low, the horns lying back on the neck to the point of the shoulders. The animals range from 1,200 to 1,600 pounds in weight. They are very slow in movement and unreliable in temper. They will often, without provocation and for no apparent reason, attack Europeans. On these occasions they show that they are possessed of remarkable agility.

They are chiefly found in the low and swampy parts of the country. They spend a large part of the time in ponds, with nothing but the eyes and nose exposed above the surface of the water. There is but little difference between the wild and the tame buffalo, the latter being often the product of the cross of the wild bull and the tame cow. They would not be equal to good oxen for draft, though, of course, they are far superior to the absurd little humped oxen of Bengal. Both bulls and oxen are worked.

A bull buffalo is worth from 15 to 30 or 40 rupees;* a buffalo steer or ox, about 10 to 15 rupees; a dry cow, about the same. A cow giving milk increases in value, according to the quantity of the milk. One giving 30 to 40 pounds of milk per day is worth as much as 75 rupees. The milk is very much richer than ordinary cow's milk. The animals work from the age of three up to ten years. Prices vary a good deal according to locality.

V. L. POLK,
Consul-General.

CALCUTTA, *April 24, 1894.*

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*The silver rupee was worth 21.7 cents on July 1, 1894.

THE BRITISH WOOL TRADE.

The clip of wool in England for 1894 has been purchased by dealers quicker than ever before. For this several reasons are given:

(1) Auction fairs or sales are now held to a greater extent than heretofore.

(2) Owing to the depression which has existed here, coëxtensive with that in the United States, farmers have been poorer and more anxious to turn their fleeces at once into ready money.

(3) Anticipation that the changes in the United States tariff allowing wool to enter free would bring about a brisker demand and increase the price, has made buyers more eager.

The season's clip showed an average in price of from half a cent to one cent per pound advance over last year. This advance was also said to be caused by proposed American tariff changes, as it was not warranted by consumption in the home trade. The spinners have not increased the price of their yarns in proportion to the increase in raw material, for the reason that the condition of trade would not allow it, and they could not have sold their product had they done so. In their price lists issued for the next six months, spinners have not advanced prices at all. They are said not to be making a profit, but to feel that they are doing well to pay running expenses during these dull times.

It is difficult to estimate the total clip of English wool for 1894, though it is supposed to be about up to that of 1893.

In the "Down districts" it is considered to be 20 per cent less than last year, on account of the prolonged drought of the spring and summer of 1893. This season's wool, which has been purchased so quickly, is now stored in large quantities in Bradford and the surrounding district at the various railway stations and in the warehouses. There is a prospect, of an abundant harvest in England, which is expected to improve the home trade, while the new market, which is expected to open up in the United States soon, adds encouragement to the dealers who are holding very large stocks. They are now sanguine in the wool trade, and consider the prospect brighter on all sides.

No more than the usual quantity of foreign wool (that is wools from Asia, Australia, Europe, Africa, and South America) is coming to Bradford. In fact if any difference is noted in the London wool markets, it is that Bradford is purchasing a little less. For this there are three reasons—the state of trade, the fact that Craven & Craven, the largest spinners in the district, have failed and are not consuming as usual, and that the banks are cutting down the amount of paper they carry to the lowest possible figure.

Despite this fact the bank rate is very low, and money is to be had at 2 per cent.

PRESENT WOOL PRICES.

Prospective buyers of foreign wool in the United States may be interested in knowing the present prices of English wool, compared with those of last year:

Prices quoted.

Description.	March 27, 1893.		August 3, 1894.	
	Cents.	*Pence.*	*Cents.*	*Pence.*
Luster.				
Yorkshire hogs	20½	10¼	22½	11¼
Yorkshire wethers	19½	9¾	21	10½
Lincoln hogs	19½	9¾	21	10½
Lincoln wethers	19	9½	20	10
Notts hogs	20	10	22½	11¼
Notts wethers	19½	9¾	21	10½
Demi-luster.				
Irish hogs	21	10½	21	10½
Irish wethers	20	10	20	10
Kent wethers	20	10	20	10
North hogs	23	11½	22½	11¼
North wethers	22	11	21	10½
Somerset wethers	20	10	20	10
Cheviot hogs	23	11½	22	11
Cheviot wethers	22	11	21	10½
Shropshire hogs	22½	11¼	23	11½
Shropshire wethers	21½	10¾	21½	10¾
Stafford hogs	22½	11¼	23	11½
Stafford wethers	21½	10¾	21½	10¾
Down wools.				
Sussex tegs	26	13	25	12½
Sussex ewes	26	13	25	12½
Dorset horns	22½	11¼	23½	11¾
Wiltshire tegs	25	12½	23	11½
Wiltshire ewes	24	12	22	11
Norfolk tegs	22	11	23	11½
Norfolk ewes	21	10½	21	10½
Norfolk half-bred hogs	20½	10¼	23	11½
Norfolk half-bred wethers	20	10	21	10½

ENGLISH WOOL SALES.

The wool sales of England are of so much consequence in commerce that the railroads make of them almost a special department. The Great Northern Railway makes up a list of the "principal wool sales and rates to and from which the Great Northern Railway can carry." It announces "a representative of the Great Northern Railway will attend these fairs for the purpose of giving information as to rates and routes, and facilitating transit of wool over the Great Northern system and to places beyond." In this connection a table is given showing the location and date of seventy-six sales and fairs in the provinces.

The Midland Railway also issues a card monthly showing the wool sales that are to take place during the month in London, giving the day, the place of sale, and the names of the sellers. During last month (July) for instance there were thirty-nine sales in London which had been thus bulletined in advance. On the reverse of this card, the number of bales of wool lately arrived from New South Wales, Queensland, Victoria, South Australia, Western Australia, Tasmania, New Zealand, Cape and Natal, Falkland Islands, and Punta Arenas are shown, the total being 258,902 bales. The information is given that, of this number, 55,500 bales of Australian and 20,500 of Cape have been forwarded directly to Yorkshire and the Continent, the inference being that the balance will be sold to the highest bidder.

It is a matter of comment that rival buyers, in bidding for the 1894 clip at the various sales, have not indulged in the usual contest for raising an infinitesimal fraction of a cent at each bid, but have gone at once to the higher prices.

WOOL PRICES FOR A HUNDRED YEARS.

The ruling prices of "Down" fleeces, as paid to the growers or flockmasters for the last one hundred and ten years, are as follows:

Down fleeces.

Year.	Price.	Year.	Price.	Year.	Price.
	Cents.		*Cents.*		*Cents.*
1784	17	1821	30	1858	29½
1785	18	1822	30	1859	35½
1786	18	1823	30	1860	39
1787	22	1824	28	1861	32
1788	24	1825	32	1862	35½
1789	24	1826	20	1863	41½
1790	25	1827	18	1864	48
1791	18	1828	16	1865	42½
1792	32	1829	13	1866	36
1793	23	1830	19	1867	33
1794	26	1831	27	1868	31½
1795	30	1832	24	1869	27½
1796	32	1833	34	1870	26
1797	30	1834	37	1871	35½
1798	30	1835	33	1872	43
1799	42	1836	36	1873	37
1800	34	1837	24	1874	34½
1801	38	1838	32	1875	36½
1802	38	1839	34	1876	32
1803	40	1840	27	1877	34
1804	44	1841	22	1878	30½
1805	54	1842	20½	1879	24
1806	44	1843	20½	1880	30
1807	48	1844	25	1881	28
1808	42	1845	27½	1882	30
1809	72	1846	25	1883	27
1810	56	1847	23½	1884	26
1811	34	1848	18	1885	22
1812	40	1849	20½	1886	23
1813	46	1850	23½	1887	26
1814	52	1851	24½	1888	21
1815	46	1852	26	1889	24
1816	36	1853	34½	1890	23
1817	48	1854	23½	1891	23
1818	60	1855	28	1892	21
1819	38	1856	32	1893	20½
1820	34	1857	36	1894	21

CLAUDE MEEKER,
Consul.

BRADFORD, *August 3, 1894.*

THE DAIRY INDUSTRY OF VICTORIA.

During the butter-shipping season, which commenced about the middle of September and ended on the 28th of April, the colony exported 7,315 tons of butter, which, at the net value of, say, 11*d.* (22 cents) per pound, gives as the total value of the export of butter for the season the magnificent sum of £761,273 6*s.* 8*d.* ($3,704,355).

The appended table shows the annually increasing value of the export trade in butter since the season of 1889–'90, when the factory system of dairying butter was introduced into the colony:

1889–'90	£51,300=	$249,626
1890–'91	91,200=	443,779
1891–'92	225,000=	1,094,850
1892–'93	404,032=	1,967,966
1893–'94	761,273=	3,404,355

By including 220 tons of cheese, valued at £50 ($243.30 per ton, which have been exported during the season, the clear return to dairy farmers for the exports of dairy produce reached £772,273 6*s.* 8*d.* ($3,757,882). The quantity of butter exported represents 16,609,600 pounds. Assuming that every pound of butter requires 2½ gallons of milk for its production, figures show that 41,524,000 gallons had to be obtained and separated in order to furnish the quantity of butter exported. From the churns this butter was packed into 296,600 boxes, each containing 56 pounds net, and then chilled, frozen, and shipped in steamers to England. During the season the weight of one shipment reached 650 tons, which is probably the largest shipment that ever left the shores of any country in one vessel.

The most careful supervision was exercised throughout the season at the port of shipment, and judging from the public and private advices from England regarding the character of the Victorian butter, the quality improves from year to year, the uniformity of the enormous quantity shipped this year being a matter for which the dairy farmers deserve the widest congratulation.

OCEAN FREIGHTS.

At 1*d.* (2 cents) per pound, the amount charged for carriage of the butter to London, the two companies under contract with the Government of the colony this season received £68,270 ($332,196) as freight on butter from Victoria alone. Including cheese, the colony has paid altogether as freight for dairy produce shipped to London this season £70,323 ($342,192). There is a widespread demand for a reduction on the present freight for butter to at least three-fourths of a penny (1½ cents) per pound, and the persistent efforts of the Minister of Agriculture to secure a substantial reduction have met with the general approval of producers in all parts of the colony.

Dairy farmers naturally fail to understand why it is that shipping companies carry frozen mutton at £3 6*s.* ($16.04) per ton measurement, when for butter, which is packed closer and is more easily, safely, and cheaply handled, a charge of £9 6*s.* 8*d.* ($45.39) per ton weight is made. With an annual increase in the exports of agricultural produce, competition on the part of shipping companies is certain to increase to a corresponding degree, and should the fiscal policy of the colony so shape itself in the near future as to permit of increased imports of goods that can not be manufactured here, substantial reductions in freight for the produce would immediately follow.

RAILWAY FREIGHTS.

Complaints are heard from some of the factories most distant from Melbourne of the excessive freight charged for the carriage of butter by rail to the port of shipment. In the northern and other districts, where factories are springing up at distances varying from 200 to 300 miles from the seaboard, the railway freights on butter prove a severe handicap, amounting in some instances to a half penny (1 cent) per pound, or £4 13*s.* 4*d.* ($22.70) per ton. Such exorbitant charges must have a crushing effect upon the development of any industry. From end to end of the colony is heard the cry of producers for cheaper railway freights, and the prices quoted as charged for the carriage of butter should satisfy the Government that there are just grounds for the united demand on the part of the country people for a readjustment of railway freights for the carriage of all classes of agricultural produce.

RAILWAY TRANSIT.

Every possible facility for the speedy transit of butter from the chilling depot in Flinders street to Port Melbourne is extended by the railway commissioners. From the factories, too, the commissioners, considering the means at their disposal, have tried their best to convey the butter to Flinders street in the best possible condition. Success in every instance has not attended their efforts; but, generally speaking, there has not been a great deal to complain of, as the season proved a moderately cool one.

PACKING BUTTER FOR EXPORT.

A great many of the factories are not sufficiently careful in their selection of the boxes used for packing butter for export. The demand for boxes last season was very large; but, nevertheless, suitable boxes could always be obtained at the regular price. The factories referred to have used very bad judgment by selecting boxes made from green timber simply because they were cheap. When boxes made from unseasoned timber are used the sap oozes out of the wood, gives a very objectionable and musty-looking stain to the parchment paper, and mildews the whole surface of the butter. Viewed from every standpoint, the practice is a mistake. It destroys the appearance of the butter and reduces its market value.

Perhaps one of the most important results of the visit to England lately of the dairy expert of the Agricultural Department of the colony was the information obtained for making perfect-keeping butter by heating the milk up to from 180° to 200° F. The object of this high temperature is to kill all the impurities that exist in the milk. Although the process can scarcely be said to be out of the experimental stage, the results obtained by the Government agricultural chemist and the dairy expert from a number of trials justify the latter in reporting that shortly the Agricultural Department will place before the factories a system of butter-making that will produce an article not to be excelled for keeping quality in any part of the world. The only difficulty to contend against is the trouble of killing all the microbes that are in the milk, and preventing fresh ones getting into the cream during the operation. This difficulty will have to be overcome before the process can be brought into general use.

LOW CHILLING OF BUTTER.

Another result of the advantages gained by the visit of the dairy expert to England has been to prove conclusively, as demonstrated by the condition of last season's shipments, that low chilling does not injure, but rather improves, the keeping qualities of the butter during ocean transit. Last season the butter was all carried at a lower temperature than formerly, which no doubt contributed considerably towards the fair average prices that were obtained.

PAYING FOR MILK BY RESULTS.

During the past year the system of paying for milk by results, or, in other words, paying for milk according to its quality, has made rapid progress in the colony. In fact it may now be said to have taken permanent root. Strange to say, milk-suppliers were first nearly all prejudiced against the system, and it took considerable time and trouble to convince them of its absolute fairness to all concerned. Thousands yet remain unconvinced, but time will gradually bring them around to the proper way of thinking.

Great credit is due to the action of the Euroa Butter Factory for popularizing the system among suppliers, and the method of paying for milk according to its actual value introduced by that factory is not only giving the highest satisfaction to the Euroa suppliers, but is also being adopted by the leading butter factories throughout the colony. The Euroa method of calculating the gallon value of milk according to its percentage of butter fat and market value of butter seems to have reached perfection.

CHEESE.

Encouraged by an export bonus of £6 ($29.10) per ton, an impetus has been given to the cheese-making industry which has resulted in 220 tons being shipped to England during the season. The Department of Agriculture obtained an expert from New Zealand, well qualified in the manufacture of cheese by the Canadian Cheddar system, to impart information in the art of making a cheese suitable for the English market. After remaining eight years in the service of the department, this expert accepted the offer of a permanent situation from a large cheese and butter-making company. Before leaving the department, however, arrangements were made by which students could visit the factory he had charge of and obtain instruction in the art of cheese-making. With the stimulus given to the exportation of cheese by the bonus of £6 ($29.20) per ton, numbers of factories are now fitting up cheese plants and intend giving more attention to this branch of dairying in future. Regarding the quality of the cheese they are turning out, however, there is great room for improvement. If they hope to command top rates in the British markets, a better and much more uniform quality of cheese will have to be made than any of last season's manufacture. In order to produce the class of cheese the colony should export, a staff of the very best practical instructors in cheese-making will have to be obtained from New Zealand or Canada. By no other means can they expect to export largely of cheese up to the standard quality. They have the pastures, and are producing milk of exceptional richness, and all that is now required is the skill necessary to convert that milk into cheese of a quality that will satisfy the taste of the British consumer.

PORK.

The policy of the present government is directed towards encouraging the production and export of as many as possible of the productions of the soil, the principal of which are pork, poultry, eggs, concentrated milk, rabbits, green pease, etc. In view of the depressed market for pork in Victoria, several trial shipments have been sent to London. Returns are not yet to hand, but, should the pork realize 10 cents per pound in London, it will be equivalent to 6 cents per pound to the producers, a price which, seeing that a large and regular market would be guarantied, will pay better than the price the producer is getting for his pork just now, or is ever likely to get in the future, unless an outlet for the surplus be obtained. In the event of the quality of the pork suiting the English taste, the outlook for a large export trade would be most encouraging to the producers. Pig breeding and fattening would go hand in hand with dairying, and as the export of pork increased cheaper production and cheaper freights would follow, and as these would mean larger profits to the producer, the colony in a very short time would be exporting thousands of pigs every week during the season

POULTRY.

There are prospects of a good export trade in poultry products. During a series of experiments by the Department of Agriculture at the refrigerating chambers (Flinders street), it was conclusively proved that both dressed poultry and eggs could be kept in a perfect state of preservation. The fowls which were chilled came out fresh and sweet after being in the chamber for a period of forty-nine days. Difficulty may be expected in the thawing of eggs, for in some instances, after being removed from the chambers, they were noticed to crack when taken into warm air. This difficulty, however, can be overcome by a gradual process of thawing. At the conclusion of these experiments it was decided to make a few trial shipments to London. The public readily responded, and much interest has been taken in the matter by those connected with rural pursuits throughout the colony, as well as by those associated with the trade in the city.

The first shipment, per steamship *Parramatta*, contained 171 fowls, 44 ducks, 100 wild fowls; the second shipment, per steamship *Cuzco*, contained 98 fowls, 96 ducks, and 83 wild fowls; the third shipment, per steamship *Celtic King*, contained 182 fowls, 92 ducks, 52 turkeys, and 148 wild fowls. It will thus be seen that a total number of 1,066 head were shipped. Great care was taken that only young birds of the best quality were sent, the average weight being about 3½ pounds for birds up to six months old. The killing, dressing, and packing were carried out carefully. The shipments were very successful. The experiments conducted by the Department in freezing eggs were not completed in time to allow of any consignment being shipped during last season, but no doubt the trade will be launched next season.

CONCENTRATED MILK, RABBITS, AND GREEN PEASE.

Experiments have been made during the past few months in the shipping of concentrated milk to England. The experiments prove that milk can be placed in London in excellent condition, and a few shipments have been made at a small profit. The heavy charge for freights, however, proves a severe handicap, and, until a reduction can be obtained for the carriage of this produce, it will be impossible to open up a profitable export trade.

If a profitable market could be obtained for frozen rabbits, a valuable food that now goes to waste here could be converted into money.

At the season of the year when green pease are most abundant here, they command fabulous prices in England, and a trial shipment is shortly to be made to test the market.

In concluding his last report, from which the foregoing has been mainly taken, the dairy expert of the Department of Agriculture of this colony remarks:

> My sole aim has been, as far as possible, to practically determine, by result of experiments, in what direction new industries can be made profitable and our export trade extended. Our main hope now lies in the productiveness of the soil. What our soil and climate, when intelligent industry is brought into requisition are capable of producing, is shown by the phenomenally rapid growth of our exports of butter. The manufacture of cheese is going to attain equal dimensions. Viewed from a common-sense standpoint, the possibilities of profitable agricultural development in Victoria are more boundless than even enthusiasts would venture to predict.

CENTRAL CHILLING DEPOT.

All butter exported last season was received at the Melbourne City Council's storage chambers, in Flinders street, instead of the Newport Freezing Works, as heretofore. Its central position gives it many advantages, but the accommodation for chilling and storage purposes is altogether inadequate to meet the growing demands of the export trade. The proposal emanating from the present government, however, to establish right at the port of shipment a huge central chilling and storage depot for all kinds of Victorian produce intended for export is, in the opinion of the Agricultural Department, just the thing necessary to encourage production and rapidly develop the export of perishable produce. The advantages attending strict supervision by the Government previous to shipment have already been instanced in the butter trade. Supervision of a similar kind, experience shows, is quite as necessary for mutton, cheese, fruit, wine, pork, poultry, etc., if the colony expects to build up a reputation for quality and uniformity that will always command for Victorian produce the highest prices both in the United Kingdom and on the Continent. With the large central depot fitted up with all the most modern appliances for receiving, handling, testing, chilling, storing, and shipping of produce, the concentration of the work under one roof, and under one competent superintendent, would, while insuring by strict supervision the export of only the best quality, also minimize the cost of producers. The country looks forward to the early establishing of a depot of this kind with the keenest possible interest.

CHILLING DEPOTS IN THE COUNTRY.

It is equally important that smaller chilling depots be established in the principal agricultural and pastoral centers, where small consignments of produce could be collected, stored, and forwarded by rail in large consignments to the central depot. Depots of this kind would prove of immense value, particularly to small landholders, as no matter how limited their scope or how little they would be able to produce, so long as the article was up to the required standard of quality it would be received at the local depot, transferred to the central depot, and, with thousands of other similar consignments, help to swell the enormous output of produce that would be bound to follow the introduction of such a system.

Partly from a want of knowledge of the proper condition in which green fruit should be shipped, and partly, perhaps, for the want of proper organization among fruit-growers, the attempts here at exporting green fruit have so far not been a complete success. Results of experiments and observations as to the cause of failures, however, are bringing them nearer the goal of every fruit-grower's ambition; and now that it has been proven that fruit can be carried to England via the Cape in a perfectly sound condition in aërated, instead of refrigerated chambers, and that in consequence of this discovery green fruit will in future be carried for 2*s.* (24 cents) instead of 6*s.* ($1.46) per case, the value of country depots for concentrating local consignments of fruit to Melbourne would be as much appreciated by those engaged in the fruit industry as by the producers of butter, cheese, pork, and mutton.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *June 9, 1894.*

BARBADOS-AMERICAN TRADE.

American trade is increasing here every year, almost every article (except clothing, boots, and hats) coming from the United States. In the hardware line, American goods are quietly and surely ousting all opponents. American carriages and every description of two and four-wheel vehicles are being bought in preference to British. American harness, however, does not seem to be so much admired, most Barbadians preferring heavy-looking English harness with collar to the American light harness with breastband. There are also complaints as to quality of material used. I have also noticed that American wines are being imported, and, on inquiry, learned that they were much sought after.

Turning now to the statistics, we find that the exports for 1893 amounted to $5,966,797, or $1,519,048 in excess of those of 1892, while the total amount shipped to the United States was $3,675,191, or $1,270,779 in excess of 1892. The imports from the United States exceeded those of 1892 by $593,600. From this it will be seen that almost the entire trade of the colony is with the United States.

In shipping, we find that the total number of vessels of every description that entered the custom house in 1893 was 1,308, or 80 in excess of 1892. The number of American vessels that entered was 150. Here I would call attention to the way in which these statistics are obtained. It appears that no record is kept at the custom house of any vessel that calls for orders and does not enter, although after paying $3 she is allowed to make what is known as an informal entry and stay an unlimited time. It will thus be seen that these statistics cannot be taken as giving the correct total of vessels that called at Barbados during the year. If those which called here in ballast for the purpose of obtaining a charter were counted, the total would be, at the very lowest calculation, treble its present figure.

The number of American vessels which annually call at this port increases every year, and every year they bring with them a greater amount of work for the consul. Barbados is directly in the way from all the South American ports, and is also a port from whence it is very easy to shape any course. In fact, I am unable to find any other consulate where so many American vessels enter. There seems to be a general idea in existence that it is at the consulates where the greatest amount is exported to the United States that the largest amount of work is performed; but to anyone who is in any way conversant with shipping affairs this will at once be seen to be an erroneous idea, as there is scarcely an American vessel that enters this port but requires the consul's assistance in settling disputes between master and man. Many of these vessels also call with sickness on board, and for the purpose of discharging the sick and obtaining the consul's assistance in placing them in the hospital. Barbados has also become a port of call for vessels in distress, and the total number of such vessels putting into this port annually is by no means inconsiderable.

The amount of correspondence received from American exporters and importers who recognize that the trade of Barbados is solely American is sometimes very large, and, although I endeavor to reply (if not to all, at least to the most important), I am afraid that I have neglected through pressure of business to answer some minor queries. Our exporters, however, will, I hope, after reading this report, comprehend that at times it must be impossible for me to reply to every letter asking for information.

GEO. T. TATE,
Consul.

BARBADOS, *August 3, 1894.*

CROPS OF HUNGARY.

I have the honor to submit to the Department official statistics of all the crops raised in Hungary for the year 1892.* No Government has as yet published these figures, those for 1891 being the latest published by the English Government. Statistics for 1893 are not yet available.

In the compilation of this report I beg to express my thanks for the assistance rendered by Mr. Antonio E. and Rudolfo Newman, of New York and Buenos Ayres.

Hungarian crop returns for 1892.

Crops.	Area cultivated.	Crop per acre.	Total crop.	Price per metric centimes.	Total value of crop.	Receipts per acre.
	*Acres.**	*Metric centners.*†	*Metric centners.*†	*Florins*‡	*Florins.*‡	*Florins.*‡
Wheat	5,325,031	7.26	38,651,729	7.45	287,927,355	54.07
Grain	2,171,118	6.14	13,338,149	6.14	85,974,455	39.59
Barley	1,814,369	6.41	11,626,525	5.75	66,814,815	36.83
Oats	1,750,783	5.61	9,817,862	5.01	49,128,798	28.06
Rape	91,282	4.10	374,516	10.22	3,826,595	41.92
Millet	60,488	6.42	388,188	4.89	1,899,308	31.40
Buckwheat	26,658	3.41	90,991	5.51	501,663	18.81
Indian corn	3,632,027	8.33	30,272,107	4.75	125,855,777	34.65
Legumes	81,324	5.61	456,544	6.58	3,005,727	36.96
Vetch seed	147,321	6.12	901,871	5.44	4,911,952	33.34
Tobacco	70,340	7.62	535,942	18.64	9,988.880	142.01
Beet root	126,036	106.07	13,368,381	0.87	11,648,358	92.42
Potatoes	795,038	34.89	27,741,453	1.43	39,741,453	49.99
Turnips (cattle)	227,571	132.08	30,058,299	0.56	16,763,810	73.67
Clover	517,206	22.77	11,778,603	2.14	24,253,505	46.90
Fodder mixed with vetches	468,628	19.55	9,162,892	2.00	18,348,320	39.15
Meadow hay	4,486,967	14.78	66,335,432	1.75	115,942,734	25.44

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* The thirteen tables, broad sheets of closely written figures transmitted by Consul Hammond—of which the statements given herewith are but the condensed totals prepared in the Bureau of Statistics—were transmitted to the Department of Agriculture on August 4.

* The acres given are the Hungarian joch, equal to 1.183 American acres.

† 1 metric centner=220.46 pounds.

‡ Since September, 1892, the gold crown is the money unit in Austria-Hungary. On August 2 of that year the florin was valued by the United States Treasury Department at 32 cents.

NOTE BY THE CONSUL.—The entire area mown off, in Hungarian acres (catastral joch), was 21,931,762 acres, realizing 40.45 florins per acre=887,139,976 florins.

Flax and hemp crops.

Description.	Flax.	Hemp.
Area under cultivation..........acres...	22,367	117,198
Seed per acre..........metric centners...	3.63	3.60
Crop of fiber per acre..........do.....	2.89	4.03
Total crop of seed..........do.....	81,221	421,379
Total fiber crop..........do.....	64,712	472,791
Price of seed per metric quintal..........florins...	9.12	7.88
Price of fiber per metric quintal..........do.....	41.64	29.37
Value of total crop of seed..........do.....	744,874	3,322,958
Value of total crop of fiber..........do.....	2,694,962	13,883,645
Total receipts per acre..........do.....	153.61	146.81

E. P. T. HAMMOND,
Consul.

BUDAPEST, *July 4, 1894.*

THE GERMAN HOP CROP OF 1894.

Within a few weeks, the hop-producers of the European continent will proceed to gather the crop of 1894, and should no unforeseen conditions arise the harvest will, at least as far as the area cultivated in Bavaria is concerned, prove equal to the yield of the most favorable years. The custom of the German hop-producers of creating an artificial rise in prices by predicting a short yield can not therefore be successfully put into practice this year.

In consequence of the large crop in prospect, American hops (which have been used in Germany during the past year, owing to last season's small yield and exorbitant prices), will find, it is said, few buyers on the German market; on the other hand, it is stated in well-informed circles that American hops will undoubtedly be purchased to a considerable extent by English consumers if the prices are sufficiently low.

To give American producers and dealers interested in the matter as clear an insight regarding the status of the hop market as possible, I herewith include statements by several of the largest hop-exporting firms of this city bearing upon the prospects for the coming season. Leopold Ullman, Bamberg and New York, writes:

> Reports from all the hop-growing districts of Bavaria continue to speak very favorably of the growth of bine, and although in some districts vermin is complained of, the recent hot weather has been very effectual in destroying them, so that we may safely remark that, if the present weather continues, we shall have one of the most excellent crops on record, both as regards quality and quantity. From personal inspection throughout the hop-growing districts in Bohemia, we may safely assert that the plant is in an exceedingly fine condition, and that there is every appearance of the crop of 1894 proving at least equal to that of last season, whereas, in Bavaria, it will be considerably larger. Altogether, we may predict a crop that will exceed the general average. It is most likely that picking will commence about a week earlier than has been the case in these last few years. As English reports also

speak of most favorable prospects, we are almost certain to grow more hops in Europe than will be required. Prices, therefore, are certain to rule pretty moderate. American hops, both States and Pacific, have been received with great favor in Great Britain. I may here remark that American hops do not greatly take the fancy of German brewers, whereas, in England they are being used in considerable quantities and apparently with favorable results. It is still too early to give any definite statement of the probable quantity that will be harvested, but it is likely that the world's crop will be considerably above the year's requirements.

Moritz Rosenwald, Bamberg and New York:

The hop yield now in prospect will greatly exceed the average crop. An excellent grade of hops is to be expected, similar to that of 1889, and prices will be low. American hops can not be successfully placed on the German market this year, but larger quantities of the American product will be imported by England. Harvesting this year will commence from eight to ten days sooner than is ordinarily the case.

E. Guettermann & Co., Bamberg and New York (this firm handled last season a considerable quantity of American hops), write:

We can safely predict that the Bavarian hop crop this year will exceed the usual yield by about one-half. The quality of the hops, judging from present indications, will be very good, being similar in this regard to the crop of 1889. We fear that American hops will find no business this year on the German market; but if prices of the American product are quite low, there is every probability that they will be exported in large quantities to England. The crop in Germany will be gathered early.

The statements of the above-named merchants accord fully with those made by the brewers whom I have interrogated on the subject.

LOUIS STERN,
Commercial Agent.

BAMBERG, *August 2, 1894.*

LUMBER, DYEWOODS, AND WHEAT FLOUR IN COSTA RICA.*

LUMBER.

The native woods principally utilized as lumber consist of two or three varieties of cedar, as well as several cheaper and less durable woods unknown in northern countries.

Of imported lumber, pine is the only kind used in any quantity, with some oak brought for use of the railroad in its repair shops. The principal objection to pine and other foreign lumber is that in a very few years it is attacked by insects, which eat through the stoutest pieces and completely destroy them.

The value of lumber imported from the United States during the year 1893 was $3,816 in American gold.

There is an import duty of, say, 2½ cents in American currency per kilometer (2.2046 pounds) on lumber such as boards, rafters, and for construction purposes generally.

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*These reports were received too late for publication in the Special Consular Reports, "American Lumber in Foreign Markets," and "Extension of Markets for American Flour."

According to a Government decree dated July 28, 1890, all lumber for construction imported for use in Port Limon is free of duty till July 29, 1895.

Cedar is worth about $6 and mahogany about $8 (American money) per ton of 40 cubic feet.

In view of the small demand for foreign lumber and the condition of general building at the present time, there is very little to be suggested in the way of extending trade. Sawmills are being erected in different parts of the country, and native woods are well adapted for most local building purposes.

DYEWOODS.

The principal wood exported is fustic, very little, if any, being shipped to the United States, nearly all going to Europe, principally to Germany and France.

There are on an average from 15,000 to 16,000 tons shipped per annum from the Pacific side, and a small quantity from the Atlantic side. In consequence of these shipments the supply of this dyewood is becoming exhausted. In fact, reliable parties engaged in this business state that within the next five or six years this class of wood will have all been cut. This refers to the accessible supplies on the coast and within easy handling distance. Inland there is a very large quantity, but the cost of bringing it down to shipping points would exceed the value of the wood.

The value of the wood is about $5 in gold per ton, delivered alongside the vessel, the price varying accordingly as the vessel loads in the Gulf or outside on the coast.

Fustic brings from £4 to £5 ($19.46 to $24.33) per ton in the United Kingdom, and about the same price in Germany and France.

Lately a decree was issued by this Government imposing a duty of $1 (Costa Rica currency)* per ton on fustic, as well as on all other woods. Fustic is the principal dyewood exported.

Information as regards the other dyewoods is impossible to obtain.

WHEAT FLOUR.

The standard of living in Costa Rica does not differ from that which prevails in the United States. The inhabitants of the cities eat wheat flour, while the country people feed principally on corn meal. The quality of flour most used is of the first class, and is imported from St. Louis, San Francisco, and New Orleans.

In the year 1893 flour to the value of $289,418 in American gold, and wheat to the value of $21,418 were imported. None but American wheat and wheat flour are imported.

The import duty on flour is 4 cents per kilogram (2.2046 pounds) and wharfage 1½ cents per kilogram, or, say, 1¾ cents and five-eighths of a cent in American gold, respectively.

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*45.7 cents American on July 1, 1894.

The import duty on wheat is 2 cents per kilogram, wharfage 1½ cents per kilogram, or, say, seven-eighths of a cent and five-eighths of a cent, respectively, in American gold. Wheat destined for the San José flour mill pays only one-fifth part of duty and wharfage.

Wheat and flour are paid for by means of drafts at three, sixty, and ninety days' sight on New York, New Orleans, and San Francisco.

Wheat and flour are shipped from the United States by three different lines: New York to Port Limon, the Atlas line, one steamer weekly; New Orleans to Port Limon, one steamer weekly; San Francisco to Punta Arenas, Pacific Mail line, one steamer fortnightly.

There are no obstacles at present to the trade in American flour, as the entire quantity of flour and wheat consumed in Costa Rica comes from the United States. As to the prospect of extension of business, the question is rather that of maintaining the present status.

Flour in Costa Rica is mostly consumed by bakers. There is very little baking done in private houses, nearly all of the bread being prepared in the bakeries.

HARRISON R. WILLIAMS,
Consul.

SAN JOSÉ, *July 2, 1894.*

ELECTRIC STREET CARS IN CHEMNITZ.

Chemnitz has banished horses from her street cars, substituting therefor the trolley system of electrical propulsion. Instead of poles, the wires are hung from house walls. I have not seen the system anywhere else, hence this report. The system is simple, cheap, convenient, easily adjustable, and free from much of the ugliness inseparable from the network of wires necessary for the trolley.*

The method of stringing or laying the wires is by rosettes fastened into the woodwork or walls of the houses, from which project hooks, to which the wires are attached. In case of wooden walls, huge screws are turned into the wall; in case of stone, a long jagged iron is driven in and cemented. These are then tested with at least seven times the weight that they are expected to bear. Owners of houses, without exception, preferred to allow the use of their houses free to having a post on the sidewalk. The company holds signed and sealed documents from house-owners giving a year's right to the use of the walls for hooks, and a further agreement to give a year's notice for removal. The system has now been in operation for six or eight months, and has proven satisfactory and successful. No one has given notice to remove the hooks.

The tracks are (the law says they must be), level with the pavements. This costs the company more money, but is infinitely better for the public.

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*The streets here through which the cars wind their way are wider than Washington street, Boston, or Westminster street in Providence. I state this to anticipate the objection so often urged that European streets are narrower than ours.—J. C. M.

Accidents to wagons, carriages, and vehicles of all kinds are consequently very rare. The gauge is narrow, nor do I see but that this is better for the company. The cars keep the track and run as smoothly and as fast as in American cities. They run 220 yards per minute in the heart of the city and 330 per minute in the suburbs, seldom or never jumping the track.

The increase in traffic since the introduction of electricity is said to be fully 60 per cent; this, too, notwithstanding a strenuous opposition to the change manifested for years, and a year of exceedingly hard times.

The cars have no conductors. The motorman is the only person on board who represents the company. By doing away with conductors, the company saves annually 44,000 marks. The fare is only 10 pfennigs, or a trifle less than 2½ cents on all routes, including transfers. Should 150,000 persons evade payment in twelve months, the loss would be 15,000 marks, or a very small trifle more than one-third of the 44,000 marks saved; 450,000 persons must evade fares in twelve months before the company's 44,000 marks of savings in salaries are made up. Among a people who pay for food and drink in saloons, beer gardens, etc., on their honor, not 150,000, 100,000, nor even 50,000 in a year evade fares. I am perfectly satisfied that the present system works successfully. In cases of evasion of fare, persons are punished both in the courts and by publicity in the newspapers—this latter to warn others. "Fare boxes" are attached to front and rear parts of the car, hence no one has any excuse to offer as to difficulty of getting forward. Then, too, the "public eye" is always watching, and nobody wants to be even thought guilty.

Public opinion was divided between the trolley (overhead) and the underground system now operating in Budapest. It was claimed, and pretty satisfactorily proven, that in northern cities, where snow falls heavily and lies on the ground a long time, not only is the trolley best but the underground system is not satisfactory. I did not learn that any opinion was expressed as to the merits of the storage system.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *July 5, 1894.*

COMMERCE AND INDUSTRIES OF FLANDERS.*

This consular district consists of the two provinces of East and West Flanders, formerly known as the county of Flanders. They have played an important role in history. This name is conspicuous not only in the annals of war, but in the longer records of peaceful industry. As early as the year 1400, fifty thousand workmen were employed at Ghent in the manufacture of woolens and linens. These productions were then exported to all quarters of the world. It must be remembered that at that time the population of London did not exceed 35,000 souls. Paris counted 150,000 inhabitants, but Bruges had 100,000, Ypres 200,000, and Ghent 250,000. During the fifteenth century, and the early portion of the sixteenth century, Ghent maintained its position as the chief city in Europe.

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*Plans of ports accompanying this report were sent to the Bureau of Intelligence, Navy Department, July 9; tables, etc., were filed for publication in Commercial Relations.

AREA AND POPULATION.

East Flanders has an area of 1,158½ square miles. Its population on December 31, 1892, was 961,907, being 831 inhabitants per square mile. Except the province of Brabant, in which Brussels is situated, where there are 897 inhabitants per square mile, East Flanders is one of the most densely populated spots in Europe. The area of West Flanders amounts to 1,248½ square miles, with a population of 749,291 souls, being 600 inhabitants to the square mile. The two provinces together form more than one-fifth of the area of Beligum, and contain more than one-fourth of all its inhabitants. The total area of this consular district is 2,407 square miles, with a total population of 1,711,198 inhabitants, being 711 persons per square mile.

The following table indicates the chief towns of the District, their population, and their principal industries:

Name.	Population.	Principal industries.
Ghent	153,803	Too numerous to mention.
Suburbs:		
Ledeberg	12,666	Horticulture.
Mount St. Amand	11,094	Do.
Gentbrugge	8,633	Do.
Tronchiennes	5,013	Breweries.
Total for Ghent and suburbs.	191,209	
Bruges	48,246	Lace.
Courtrai	30,927	Chicory, flax, and lace.
St. Nicholas	28,374	Linen and cotton bleaching.
Alost	26,070	Braids, shoe laces, and sewing thread.
Ostend	25,790	Summer resort.
Roulers	20,614	Chicory, paper stock, and chocolate.
Lokeren	19,996	Linen and cotton bleaching.
Renaix	17,440	Cotton and woolen tissues.
Ypres	16,595	Lace, and cotton and woolen tissues.
Mouseron	14,729	Tobacco and lace.
Menin	14,458	Tobacco, lace, and flax.
Wetteren	12,434	Gunpowder, lace, oil, and cotton-spinning.
Zele	12,227	Cotton bedding, oil, and sailcloth.
Hamme	12,167	Braids, starch, rope, and cord, and linen and cotton bleaching.
Eccloo	11,840	Cotton and woolen tissues, skins, chemical products, and lace.
Grammont	11,133	Lace, matches, and breweries.
Tamise	11,120	Baskets and wicker goods, cord, and rope.
Poperinghe	10,939	Lace and chicory.
Iseghem	10,229	Flax and chicory.

TRADE CONDITIONS.

Belgium is a manufacturing country *par excellence.* It makes much more than it consumes; consequently, its welfare is dependent upon the sustained demand of foreign consumers. Such is, in a large measure, the condition of this consular district. The domestic situation being tranquil, prosperity will be present so long as the foreign markets are open. In this respect the past year has been fair. The tendency, however, has been to depression. The riots and the cessation of work at two different periods last year did not have any appreciable effect upon industry. These troubles being purely political, did not extend to further social disturbances. The prevailing fear, however, has been that other countries might increase the restrictions upon goods produced in Belgium. For the past year there has been intense anxiety and interest in reference to the proposed reduction of duties by the United States.

INDUSTRIES.

Raw cotton.—The cotton crop of the United States for 1893 was small—only 6,700,000 bales against 9,038,000 bales in 1892, and 8,655,000, in 1891. In view of this enormous diminution of supply, the speculators considered the time propitious for pushing up prices. At first they were successful, and maintained excessive quotations for three months. Unfortunately for them the strike in England, commencing in December, 1892, and continuing four and one-half months, suspended the production of 18,000,000 spindles. The crisis in the United States also declared itself. In the month of April, 1893, cotton fell again to normal or even lower prices. The enormous supply of 2,300,000 bales, with which the season had commenced, had scarcely been touched, and although the output for 1893 was 2,350,000 bales less than the preceding year, the stock was only reduced by 400,000 or 500,000 bales. At the close of the year the prices were moderate, or rather below the average.

Cotton spinning.—The spinning industry naturally suffered from the sudden variations in the price of the raw material. The Oldham strike not only deceived the speculators, but disappointed the spinners in its results. Heretofore a general custom has prevailed of purchasing large stocks on a low market. Caught, however, by the experience of several years, it is probable that in the future the supply will be bought more from day to day, according to needs. The importations of cotton at this port have been less than usual. During the year only two steamers with cotton arrived direct from the United States, while no arrivals from India are to be noted.

Cotton weaving.—The sale of cotton tissues has been regular, notwithstanding the exceptional circumstances of the year. Prices have continued firm, showing that there has not been overproduction. The exportation has been very limited. Several new weaving establishments have been started in this city and its environs; others are in course of construction, and several firms have increased the number of their spindles. The most important event of the year has been the introduction of the four-loom system, which has been generally adopted by the manufacturers and accepted by the workmen. It is hoped that, by this improvement, the Ghent cottons will be better able to compete in quality and price with their English rivals.

Flax spinning.—This industry has, of course, been greatly affected by the prevailing high prices of the raw material and its inferior quality. Warned of an ultimate rise in the market by the smallness of the crop of 1892, the spinners had purchased a large stock of the raw material, which they had on hand at the opening of 1893. During the early months of last year they accordingly reaped the benefit, but when it became necessary to replenish their stocks at a later day the increasing price of flax and tow reduced the difference between the cost and sale price to a minimum. Disappointed in the most important factor of prosperity—the annual harvest—the flax-spinner has experienced the most important year in a series of disastrous years. On account of the scarcity of the domestic crop, the manufacturer turned his eyes toward Russia, where at first there were hopes of supplying the deficit; here, again, disappointment occurred. The financial crisis in the United States, the disturbed political conditions in South America, the failure of the Italian demand, and the increase of duties by Spain combined to cut off the greater portion of the markets to which these Belgium products go. Consequently, although spinning less, the supply of raw material has been entirely inadequate. At the close of the year there was no hope of an early fall in prices. Wages have been stationary.

Linen weaving.—The demand for pure linens is constantly on the decrease. Mixed woven goods are now supplanting them, especially the mixture of linen and jute. Belgium has great difficulty in competing with other countries of production. The year opened badly. Notwithstanding a slight improvement in prices, the cost of yarn has risen so disproportionately as to preclude the possibility of any prosperity. The value of all kinds of linens exported from Ghent for the first eleven months of 1892 was $298,666.73; for the same period of 1893 it amounted to $232,882.68, showing a decrease of $65,784.05.

Jute spinning.—The jute harvest was small, not exceeding 2,000,000 bales for all Europe. The cost of raw jute has been constantly on the increase, while the price of yarn has remained almost stationary. Under these conditions the year has been very unfavorable to this industry.

Jute weaving.—The condition of jute weaving has gradually improved during the year. At its beginning the prices were extraordinarily low, but at the close an increase of 30 per cent was to be noted. The sudden fluctuations in the raw material, and the prohibitive duties voted by the French Government, have deprived purchasers of all confidence. The entrance of old sacks free of duty also injures the sale of indigenous tissues.

Sailcloth.—The manufacture of sailcloth is constantly decreasing with the increasing number of steamers. There are only three or four establishments in operation; these produce very irregularly, meeting only the demand of the trade. The Government has permitted the free entry of these tissues for the supply of foreign vessels. Under cover of this provision foreign houses have established themselves at Antwerp, and are seriously injuring the native manufacturers.

Machinery.—Orders have been entirely insufficient for the capacity of the machine shops. The few contracts made in France and Spain have lost their profit, owing to the high duties which must be paid on machinery. The Belgian railways also have bought still fewer locomotives than in 1892. The situation is very unsatisfactory.

Beet sugar.—The temperature was the cause of much anxiety for the sugar industry of Belgium. At the time of sowing an unequaled dryness, which lasted until July 1, caused fears of disaster for cultivators as well as for manufacturers. The result, however, was happily better than the expectation. Thanks to a well-prepared soil and to the hardiness of the plant, the harvest was at least remunerative, if not abundant. Except in Flanders, the crop surpassed that of all previous years. Contracts for the season of 1893–'94 in East Flanders amount to 46,086,318.72 pounds of sugar. For the preceding season they were 35,473,532.07 pounds.

Milling.—The millers have suffered severely from the low prices prevailing for grain and bread. The trade in French flour has become menacing. Owing to the drawback on exportation, French flour may be sold in Belgium at 8½ cents per 100 pounds less than in France. This competition is serious for the milling industry of Flanders. One large establishment has already closed its doors, and others threaten to follow its example.

Breweries.—The brewing industry of Ghent is devoted almost exclusively to the supply of the local demand. During the year the taxes paid amounted to $119,519.72, as against $115,190.50 for 1892.

Distilleries.—The distillers have suffered a slight diminution of production during 1893. The number of gallons produced was 2,076,743,540, as against 2,166,409,609 for 1892. The taxes paid were, respectively, $252,099.69 and $239,620.76. Prices have remained stationary.

CHEMICAL PRODUCTS FOR AGRICULTURE.

The exportations of nitrate of soda from the different ports of the Pacific amounted, in 1893, to 932,000 tons—an increase of 142,000 tons over the total of the preceding year. The consumption of nitrate by Europe for the year is estimated at 248,000 tons, of which 95,600 tons were for Belgium. Only 3,250 tons of nitrate have been imported at Ghent against 15,162 in 1892. On December 31, 1893, the stock in Europe and afloat amounted to 450,000 tons.

The consumption of superphosphate of chalk has increased during the past year. The fall in price of phosphates of chalk, which has been the rule for the past two years, seems to have ceased in the latter part of 1893. Indeed there was a slight upward tendency. The more favorable situation of this article is due to the increase in consumption and decrease in supply. The storms of 1893 destroyed several important factories in the Carolinas.

The sale of sulphate of copper has been very light; the dry season has been so favorable to the potato crop as to obviate its use.

Sulphate of ammonia has found increased employment abroad; its production has remained stationary, and consequently prices have risen.

AGRICULTURE.

The agricultural regions of this district were given as follows in 1880:

District.	Polderain.	Sandy.	Clayey.
	Acres.	*Acres.*	*Acres.*
West Flanders	171,433	337,364	290,389
East Flanders	45,088	574,048	122,191

Rainfall.—As the generally bad condition of the crops in Flanders last summer was entirely attributable to the small rainfall, the following table may not be considered superfluous. It gives the comparative rainfall for three years, as officially noted at the botanical garden, Ghent:

Months.	1891.		1892.		1893.	
	Number of days of rainfall.	Amount of rainfall.	Number of days of rainfall.	Amount of rainfall.	Number of days of rainfall.	Amount of rainfall.
		Inches.		*Inches.*		*Inches.*
March	14	1.856	10	1.33	7	0.335
April	12	0.949	12	0.827	2	0.023
May	17	2.633	7	0.413	7	0.819
June	12	3.257	11	2.457	9	1.026
July	14	3.849	11	1.977	18	3.307
August	17	3.553	13	1.463	11	1.131
September	9	1.369	16	4.547	19	4.138
Total	95	17.466	80	13.014	73	10.779

Cereals.—Wheat selling cheap in January, 1893, at $1.22½ to $1.48½ per 100 pounds, had fallen to $1.09 and $1.22½ at the end of the year. Since November, 1891, there has been a constant downward tendency. Native rye was worth $1.09 to $1.31 per 100 pounds from January to June, and from $1.00½ to $1.26½ from July to December. There is a great surplus of this cereal, which is exported to Germany. Distillers are largely replacing it by maize and wheat. Aided by the lower prices, wheat is also supplanting rye in general usage. The barley harvest of Belgium has been fine and abundant. Barley has also been imported in large quantities from Russia, where the crop was excellent. The rice has varied from 87½ to 96 cents per 100 pounds, going occasionally as low as 81 cents. Oats have been high, owing to the small native harvest and the Russo-German tariff war. American oats have brought better prices in Germany than here, and only small quantities were imported, especially in the early part of the year. Until July, prices were $1.26½ to $1.53 per 100 pounds; afterwards they fell to $1.09 and $1.26½. The importation of maize has been much less than in 1892. American shipments have been small. Canada, on the other hand, has furnished more than usual, but Egypt has sent none and the River Plate sent none until September. Prices throughout the year have been maintained at 91½ cents to $1.18 per 100 pounds.

Flax.—Two successive poor crops have rendered the flax trade unprecedently dull. In 1892, the Belgian crop was small—in 1893 it was worse. Other extraneous circumstances combined against the exportation. The English and Irish demand last year was very light, owing to the good crop in Ireland. Pending tariff changes, American spinners have operated very sparingly. High prices prevented sales to Germany. The only available outlet was France, where, owing to the official efforts to foster it, the cultivation of flax is increasing every year. For farmers, country dealers, and speculators, the small crop was favorable at the beginning of the year, as they held the remainder of the crop of 1892 in their hands, and, in expectation of a prosperous season, the exporters paid good prices. Later, however, they found themselves possessed of a larger supply than the demand, without the possibility of selling it. The quality of the crop was also very indifferent. Indeed in France, Belgium, and Holland, the standard of the flax crop was generally bad, owing to the long drought, continuing from March 5 to the end of August. As a natural consequence of the limited supply, prices tended steadily upwards to such a degree that foreign purchasers would not follow them, the result being the exportation of very small quantities. In the face of the possible exhaustion of the supply home consumers were, by competition, induced to pay extravagant prices. At the close of 1892, Flemish flax was selling for from $300 to $475 per ton, and Courtrai from $360 to $650 per ton. The prices steadily advanced in 1893 to the following quotations: Flemish flax, $375 to $525; Courtrai flax, $505 to $750 per ton. The advance was fully $60 to $75 per ton. Curiously, too, the prices for the cheaper grade rose much more sharply than for the better qualities—indeed disproportionately. In September last, many persons were hopeful for renewed activity in flax; their expectations, however, seem to have been unjustified, as the year closed much duller than it opened. The exports of flax and tow to the United States during 1893 amounted to only $106,000, as compared with $202,000 for 1892.

Chicory.—The crop last year fell below the usual quantity, not exceeding 60,000 to 65,000 tons. The demand still continued, being estimated at 70,000 to 80,000 tons; consequently, prices increased enormously. Figures previously unknown were quoted. In October, 1892, the time of the harvest, the price on the yield per ton was $33.78; in January, 1893, it was $46.32 per ton, and in June, 1893, the quotation was $92.64 to $96.50. Notwithstanding these enormous prices, the exports to the United States continued to increase. After the harvest of 1893, the price fell in October temporarily to $38.60 per ton, but at the end of the year, $57.90 was the quotation. Even at that time, however, the entire crop of the year had been exhausted, and the situation was favorable to further extraordinary prices.

Tobacco.—The declarations of tobacco cultivation numbered 58,771 in East Flanders during 1893. These declarations included 12,830,214 plants, as against 11,035,097 for 1892. The average number of plants per acre was 10,805.

Oil seeds.—The arrival of oil seeds greatly exceeded the total of 1892. Nevertheless, only flaxseed has had a demand proportionate to the supply. Sometimes flaxseed has been entirely wanting in the market, and for this reason its price has exceeded that of previous years. The quantity of flaxseed imported at Ghent was much less than in previous years. The quotations at the close were normal. Disastrous disappointment was experienced in respect to colza, rape, and ravison seed. In the early months of the year, relatively low prices and the prospect of bad crops in all Europe tempted speculation. As a fact, in most European countries, the harvest was insignificant, but in the presence of the abundant supply from the East Indies this circumstance was without effect. When the season of consumption (August and September) arrived, the persistent cheapness of colza oils aggravated the situation. The year closed with the lowest prices known for a long time, with a difference of 26 to 28 cents per 100 pounds between the highest quotation of the year in February and March and the final price. The arrivals of ravison seed have been considerable. For the first half of the year, the prices were firm—$1.20 to $1.26½ per 100 pounds. In November, large arrivals caused a drop to $1.04½ to $1.09. Ravison seed is now less in demand, since the increased importation of Jumba seed from the East Indies. These seeds have passed very satisfactorily the different tests to which they have been submitted. They are quoted at $1.46½ to $1.55 per 100 pounds. The importations of peanuts have been insignificant; the market has, however, been favorable. In January and February, quotations were $2.12 to $2.21 per 100 pounds. In March the price rose to $2.36½. In October and November, prices of the new crop were $2.19 to $2.23½. The importation of Riga flaxseed for sowing is increasing annually. The quality last year was inferior to that of the preceding year, and the prices suffered great fluctuations.

Seed oils.—The manufacture of colza oil cakes in 1893 was more satisfactory than in 1892 on account of the richness of the East Indian seeds. The Flemish farmer, having had a disastrous experience in the employment of chemical fertilizers, has welcomed the introduction of oil cakes. For tobacco and flax they have proved especially beneficial. Colza oil sold from January to April at $4.64 to $4.82 per 100 pounds, and then dropped gradually to $4.01 (in December) owing to large arrivals of the seed from the East Indies. The manufacture of flaxseed cakes has also been better than in 1892. On account of the dry season there has been an enormous deficit in fodder; therefore the demand for flax oil cakes has been large. Prices were good until September, then the abundance and the low price of cereals caused the demand to cease. Quotations fell 48 to 50 cents per 100 pounds. At the close of the year, flax oil cakes were entirely unsalable. Flax oil has been rather firm throughout the year at $4.01 to $4.19 per 100 pounds.

EXPORTS TO THE UNITED STATES.

Textiles.—The exportation of textile goods to the United States in 1893 amounted to $129,600, being less than during any of the three previous years. This fact is due to the expected reduction of the tariff, in hopes of which the purchasers have been buying just as small quantities as possible. The character of goods sent to the United States is generally cheap. The exports consist chiefly of drills, canvas, and common toweling.

Lace.—The value of lace exports from this district has constantly decreased for five years, and perhaps longer. The only apparent cause is the high tariff of the United States. Even as it is, American lace importers can certainly purchase cheaper direct of the makers in the country districts of this consulate than elsewhere in Belgium. Why they do not avail themselves of this advantage seems surprising. The reduction of our tariff on lace would certainly not in any manner injure our industries, which can never produce the article in question, it being made entirely by hand.

Paper stock.—To the American trade, the most important industry at Ghent is the paper-stock business. The exportation of rags, waste, baggings, etc., for making paper has annually represented, for many years, more than one-half of all the exports from this district. Fully as much paper stock for American mills goes from this city as from any other place in the world. One reason for the establishment of such large firms here is the fact that much material is supplied them by the cotton, flax, and jute-spinning mills of the vicinity. Ghent is also a central point for the gathering of all kinds of rags. When brought here, they are cleaned, assorted, packed, and sent in all directions. As a consequence of the changeable quarantine regulations, the exportation of rags to the United States has materially suffered during the past two years, until finally this uncertainty has culminated in a panic. Not only have these houses suffered, but the American paper trade has also, doubtless, been severely affected by the fluctuations in supply and price consequent to the changed regulations. This trade can flourish under the most restrictive conditions if only they are constant and alike to all. In January, 1893, rags were entirely forbidden to enter the United States. On February 2, an extension of six weeks was granted for the admission of Belgian rags, subject to disinfection. The shippers here worked day and night to fill orders, and an immense quantity of paper stock was poured into the United States before March ended. The impression of course prevailed that after that date the permanent prohibition until some far future day would be enforced; therefore American purchasers laid in large stocks—in fact they overstocked. The permanent prohibition expected was not, however, enforced, and rags continued to be received. Consequently prices fell 25 per cent, and in a short time no one would buy at any price. This condition still prevailed at the end of the year. During the last six months of 1893 the exportations were exceedingly light. The trade will not become normal until the large stocks in the United States are exhausted, and better times return.

Rabbit skins.—The American trade in rabbit skins and hatters' furs remained about normal in 1893, there being only a very light diminution. I would respectfully call the attention of hat manufacturers and fur-trimming makers to this market.

Plants.—The one hundred and fifty-ninth exposition of horticulture, organized at Ghent by the Royal Society of Agriculture and Horticulture, promised to be the crowning work of this capital of flowers; but a combination of all possible evils—labor troubles, hard times, bad crops, and worse weather—united to keep visitors away. The results were disastrous. The city lost much money and the horticulturists many sales. The trade is still suffering the consequences. The increase of duties at many frontiers and excessive production are threatening dangers. The native consumption is relatively small, and only the increase in foreign trade will prevent a crisis. The total exportation of plants from Belgium, being mostly from Ghent and vicinity, for the years 1889, 1890, 1891, and 1892 amounted to $1,103,354, $576,244, $606,732, and $539,098, respectively. The figures for 1893 are not yet available. The most discouraging feature is the trade with England. In 1892 the total was only $118,446, as against $709,275 in 1889. The countries to which exportation has increased are France, Holland, Portugal, and the United States, but recently the three first mentioned have imposed duties and other barriers, which will seriously affect this trade. The following figures show the exports of plants from Belgium to the United States during the last five years:

1889	$20,713
1890	41,001
1891	55,239
1892	72,495
1893	90,523
Total	279,971

Careful calculation shows that 325 nurseries are located at Ghent; their glass covers an area of 3,650,000 square feet; the capital invested is reasonably estimated at $15,700,000.

EXPORTS TO THE UNITED STATES.

There are several large factories in and around Ghent which can manufacture a good quality of Portland cement and deliver it at New York, New Orleans, San Francisco, or any other American city at cheaper prices than our home manufacture can be sold. Another coming industry is cotton crochet yarn, made in every quality and shade.

An important manufacture of Flanders, but one which has not yet made very large American connections, is that of cordage-making. Every kind of string, cord, rope, and cable is produced. As these factories are mostly established in country districts, where labor is cheap, they are able to sell their products at the lowest figures.

At Ghent there are establishments manufacturing every sort of chemical product, and, owing to their proximity to the sea and consequent lower freight rates, they certainly can compete with their German rivals, from whom Americans mostly buy such products.

Basket-making is another important industry in Flanders. Every style and shape are made, according to the demand of the country for which they are intended. Notwithstanding the 40 per cent tariff, the manufacturers can place them on the American market at a moderate price.

Shoe bristles, rubber furnishings of all kinds, starch, and photographers' supplies are items which should figure in the list of American exports, as important factories in all these branches exist in this city. Among the articles now appearing among the exports to the United States, but in which the trade should be increased, are silk braids, shoe laces, church regalia, stained glass, horses, marble, colza oil, powder, sewing threads, and wines.

Value of the principal exports from the consular district of Ghent to the United States during the five years 1889-'93.

Articles.	1889.	1890.	1891.	1892.	1893.
Chicory root and granulated	$11,166.14	$39,440.03	$80,074.95	$78,295.97	$127,145.35
Flax and tow	117,307.42	97,485.86	101,757.37	202,302.71	105,887.73
Horses	....	28,310.00	23,480.00	2,600.00	2,798.50
Lace	80,291.60	89,902.11	67,641.26	47,305.70	33,528.48
Manufactured goods	94,816.82	147,072.95	160,016.57	197,001.95	129,676.73
Paper stock	714,771.26	656,828.37	571,900.26	715,794.81	494,703.72
Plants	20,712.84	41,000.72	55,239.14	72,494.81	90,522.85
Rabbit skins and hatters' fur	147,755.20	147,980.06	154,417.96	167,245.64	162,109.27
Sundries	36,405.18	20,079.60	45,671.58	59,013.78	47,333.29
Total	1,223,226.46	1,268,099.70	1,260,199.09	1,542,055.37	1,193,705.92

EDUCATION.

The original language of Flanders is Flemish, which in many repects resembles the Dutch. The division of language among the people is shown by the following table. The figures are according to the census of 1890:

Division.	Inhabitants speaking only Flemish.	Speaking only French.	Speaking only German.	Speaking French and Flemish.	Speaking Flemish, French, and German.
East Flanders	828,722	9,084	130	107,100	3,509
West Flanders	604,320	27,375	70	103,792	1,827

The number of persons who can read and write is as follows:

Districts.	Total population.	Number who can read and write.	Per cent.
East Flanders	940,526	519,695	54.73
West Flanders	738,442	409,530	55.46
All Belgium	6,069,321	3,785,639	62.37

The University of Ghent is one of four in Belgium. It has large buildings and good museums. During 1892–'93 its students numbered 668. The total number of all the pupils in the two Flanders at all other Government schools for children, or leading up to admission to the university, does not exceed 175,000. In addition there are numerous private schools, mostly under the patronage of the Catholic authorities; their pupils number probably 200,000. There is also located at Ghent a royal school of horticulture, with 11 professors and 94 pupils; a normal school, an industrial school having 1,500 pupils, an academy of fine arts, and a conservatory of music having 967 students. At different places in Flanders there are evening schools and other industrial institutions for adults.

VITAL STATISTICS.

Births during the year.

Division.	Male.	Female.	Legitimates.	Illegitimates	Stillborn.
East Flanders	15,347	14,609	27,973	1,983	1,293
West Flanders	12,547	11,771	22,943	1,373	1,003
Total	27,894	26,380	50,916	3,356	2,296

Deaths during the year.

Division.	Male.	Female.	Total.
East Flanders	11,466	10,730	22,196
West Flanders	9,997	9,413	19,410
Total	21,463	20,143	41,606

The marriages celebrated were: East Flanders, 6,900; West Flanders, 5,155; total, 12,055.

Divorces granted: In East Flanders, 39; West Flanders, 11; total, 50.

IMMIGRATION AND EMIGRATION.

The statistics of immigration show that 1,219 persons settled in East Flanders, and 2,580 in West Flanders in 1892. During the same period, 1,279 persons emigrated from East Flanders, and 3,566 from West Flanders. The total number who went from these two provinces to the United States was 637.

HOURS OF LABOR.

According to a recent article published in the daily journals of this country, the following table gives the number of hours of daily labor in the respective industries, and at the places mentioned. It should be noted that these statistics have been compiled by the committee of workingmen seeking to reduce the hours of toil:

Place.	Trade or industry.	Hours of labor.
Bruges	Smelting houses	11
Boom	Brickmaking	*16
Hasselt	Do	†12
Turnhout	Do	*12 to 13
Antwerp	Sugar trade	12 to 13
Minove	Smelters	†12
Ghent	Spinners	12
Do	Carvers	12 to 13
Do	Cabinetmakers	17
Do	Masons	13
Do	Smelters	15 to 16
Grammont	Match-factory employés	12
Alost	Spinners	11 to 13
Renaix	Weavers	12
Termonde	Cotton-weavers	12
Do	Oil-makers	12
Eccloo	Wool-weavers	12
Brussels	Cigarmakers	10½
Do	Cabinetmakers	14 to 18
Do	Carriage-painters	13 to 14
Do	Street-car employés	15, 16, 17
Do	Hat makers	13 to 14
Ecaussines	Quarrymen	12
Centre	Miners	12
Tournay	Stonecutters	12
Ophain	Cabinetmakers	14
Soignies	Quarrymen	12
Athus	Blast-furnace employés	12
Dinant	Brewers	12
Lessines	Quarrymen	13½
Liege	Miners	11
Do	Cigarmakers	11
Herstal	Do	11
Grivegnée	Smelting houses	12
Huy	Miners	10, 11, 12, 13
Coudroy	Quarrymen	16
Borinage	Lead-furnace employés	‡24 to 25
Do	Miners	16 to 18
Verviers	Wool-spinners	12

* In summer. † Average. ‡ At a time.

AGRICULTURAL LABORERS.

According to the census of 1880, the number of the agricultural population was: In East Flanders, 244,700, being 27.74 per cent of total population; West Flanders, 180,774, being 26.13 per cent of total population.

The average daily wages of agricultural laborers in 1880 was as follows:

Districts.	Without food.		With food.	
	Men.	Women.	Men.	Women.
East Flanders	$0.32	$0.20	$0.16	$0.10
West Flanders	.35	.22	.19	.13

PRICES.

Retail prices of the principal necessaries, as sold at Ghent during 1893.

Articles.	Retail prices per pound.	Articles.	Retail prices per pound.
	Cents.		*Cents.*
Almonds	12 to 24	Nutmegs	95
Bacon	12	Oil:	
Blueing	5 to 10	Olive, Tuscani (per bottle)	48
Candles	9½ to 27	Poppy (per bottle)	17 to 25
Cheese, Dutch	17 to 28	Pepper	14½ to 24
Chicory	3½ to 9½	Prunes	5 to 15
Chocolate	18 to 48	Raisins	6½ to 24
Cinnamon	14½ to 43	Rice	2 to 8½
Cloves	46	Salt	½
Cocoa	52 to 58	Starch	5 to 10
Coffee:		Sugar:	
Unroasted	18 to 25	In loaf, white	8½
Roasted	18 to 33	Cut loaf, small	9
Flour	1⅛ to 2	Granulated	9
Ham, smoked:		Beet root, brown	8
Entire	10	Sirups	3½ to 8
Cut	21 to 42	Tapioca	6 to 8
Honey	16 to 18	Tea:	
Macaroni	6 to 8	Souchong	77
Matches, Swedish (per 10 boxes)	2 to 4	Hyson	68
Mustard, in powder	19 to 49	Vermicelli	4 to 8
Mustard, prepared	7	Vinegar (per quart)	3 to 17

Price of meats per pound.

Kinds.	Ghent.	Bruges.
	Cents.	*Cents.*
Beef:		
Living	6.91	8.75
Slaughtered	15.23	14.9
Bulls:		
Living	6.57	6.57
Slaughtered	14.35	14.9
Cows and heifers:		
Living	9.1	8.75
Slaughtered	14.44	12.3
Calves:		
Living	9.56	10.95
Slaughtered	16.98	17.07
Sheep:		
Living	7.82	9.23
Slaughtered	14.27	17.5
Hogs:		
Living	8.49	8.75
Slaughtered	15.23	13.6

ACKNOWLEDGMENTS.

To name all the persons—more than 100 in number—to whom I am indebted for information embodied in this report, would be tedious and demand much additional space; nor, indeed, would it be possible to mention all who by their conversation or assistance have served more or less as my authorities. However, without giving special prominence to individuals, I can not fail to take this opportunity to express to all who may herein find any of their statements my hearty and sincere thanks for the facts which they have contributed. For most of the statistical tables, I am under obligations to the four annual publications known as "General Statement of Commerce with Foreign Countries," "Annual Statistician of Belgium," "Report of the Chamber of Commerce and Industry of Ghent on Commerce and Industry during 1893," and "Report of the Society of Agriculture of East Flanders for 1893."

HENRY C. MORRIS,
Consul.

GHENT, *June 7, 1894.*

SIERRA LEONE—ITS COMMERCE, POPULATION, ETC..

The principal imports into Sierra Leone from the United States direct are breadstuffs, leaf tobacco, kerosene, lumber, and provisions, and the value of these for the quarter just ended (second quarter of 1894), represents as nearly as possible $80,000, to which must be added certain classes of provisions, drugs, and other items via England. More particularly itemized, the imports represent flour, hard bread, soda, and water crackers, leaf tobacco in hogsheads, half hogsheads, and cases of 100 to 150 pounds, kerosene in barrels and cases, white and yellow pine boards, planks, and scantling, ash oars and spars, hemp rope, rum, Florida water, drugs, perfumes, salted and canned provisions, hardware, sewing machines, tools, iron safes, furniture, sailcloth, white cube and brown coffee sugar, soap, beans, hams, bacon, lard, butter, cornstarch, hominy, clocks, watches, organs, barbed wire, nails, lamps, lamp ware, and cotton cords. It will be noticed that neither cotton goods nor other loom fabrics figure among the imports from the United States. Impressed with this fact, the writer, when in New York some time since, called at one or more of the large wholesale dry-goods stores and vainly endeavored, among numerous samples of white and gray cotton cloth, muslins, calico, denims, and prints submitted for inspection, to find anything which was cheap enough or inferior enough to successfully compete with the low-class "paste upon frames" which is traded to the "country" natives in these parts.

It must not be inferred, however, that better descriptions of European fabrics of all varieties are not to be found here, to a limited extent, for many of the women of Freetown, having been educated abroad have developed an appreciative refinement, and become quite as ardent votaries of the latest styles as are their blonde sisters everywhere. It has, I regret to say, been brought under my notice that two very important essentials are often overlooked by shippers in the United States. One is the quality of goods adapted for this climate, and the other is the packages and packing. Of these I propose to speak under different heads.

Flour.—This article is for the most part shipped in second, or, it may be in some instances, third-hand barrels, and these so insufficiently hooped as to be unequal to the weight of contents. Nor are the barrels lined, as they ought to be, with tough wrapping paper, hence in such a climate the flour rapidly deteriorates. Besides, in the movement to the docks or wharves from the mills, hoisting and stowing the barrels on board the ship, thence from the ship into the lighters, and finally to warehouses here, a very considerable shrinkage occurs in the contents, to the serious loss of the importers. All flour used in this colony is imported from the United States, the best patent brands being mostly in favor, but at times complaints are made that the goods are not up to the quality invoiced.

Tobacco.—Complaints are often made with regard to the contents of the packages as compared with the samples, supposed to be taken from the hogsheads or half hogsheads "inspected" at home. In many instances, in the center and around the edges, the tobacco is found to be very short, leaves crumbled from the stems, dried to pulverization, and occasionally absolutely rotten and worthless. This has frequently been brought under the writer's personal observation. In many instances the marked weight is not correct, and the packages are often so frail as to scarcely bear handling.

Kerosene.—Very great losses are sustained by the importer, owing to leakage from what are here not inaptly termed "tissue-paper cans" and "papier maché boxes," in which these fragile cans are packed.

Lumber.—Frequently this arrives in very bad order and of inferior quality—sappy, discolored, many rents, and countless unseemly knots These remarks apply more particularly to white pine shipped at New York, that from Boston, as a rule, being greatly superior.

Miscellaneous packages.—Generally speaking, there is much room for improvement, both as regards packages and packing of all kinds of goods, more particularly such articles as flour, kerosene, clocks, furniture, glassware, and other items, which in these days of hurry are very roughly handled, resulting in breakage, leakage, and other losses. Surely these are matters well worth the attention of our exporters in the United States.

American tools are always in request, and are preferred to all others. The importation of flour, tobacco, and kerosene is increasing.

EXPORTS TO THE UNITED STATES.

The exports hence to the United States during the quarter ended this day (June 30, 1894), consisted of 600 bags of ginger, 12,700 hides, 96 bags of chillies, and 2,825 pounds of coffee, the whole being of a declared value of

£3,241, or, say, $15,500—a very small percentage of the general exports to all countries.

PRINCIPAL PRODUCTS OF SIERRA LEONE.

The produce of Sierra Leone and surrounding country consists chiefly of rubber of various grades (extracted from trees and vines), palm oil, palm kernels, benne seed, ginger, arrowroot, coffee, chillies, guinea grains, cocoa, kola nuts, calabar beans, hides, horns, ivory, gum copal, cassava, groundnuts, rice, copra, cotton, camwood, and other hard woods. Of these but little is exported to the United States, there being no market at all for palm kernels and very little for palm oil, which are the principal articles of export from Sierra Leone.

American inquiry has lately been made for kola nuts; at this moment the price for these is about $15 per basket of 135 pounds, which is considered a very low quotation, the price being at times $30.

A large quantity of groundnuts used to be sent hence to New York, but the tariff completely excluded this article.

Para rubber being mostly in favor in the United States, but little, if any, rubber is now sent from Africa. More attention is being given to the preparation of rubber here. Formerly the natives were very indifferent as to the mode of manipulation, and had but little scruple in mixing mud and other foreign substances with the produce of the trees and vines. To such an extent had this reached that the principal firms, in self-defense, entered into a mutual agreement not to purchase any rubber unless the balls or pieces were all thoroughly dried and cut asunder, so that fraud might the more easily be detected. The practice of soaking rubber for a considerable time in water and mud had obtained for the purpose of increasing weight, but it is alleged that in this, at least, the savage only imitated his more civilized European brother. If honestly and properly prepared, it is my opinion that such qualities as Manoh twists, etc., (usually quoted at about 55 cents per pound on the Liverpool exchange), might, under more careful and scientific manipulation, be made to equal some, if not all, the Para grades. Hence we may see this useful product again quoted on the produce exchanges of the United States.

Greater attention is also being given to the cultivation of coffee, and the present year's yield is not only large, but of superior quality. The great drawback, however, to this and the rice industry, is the primitive manner in which the berries of the one and the ears or pods of the other are hulled and otherwise prepared by the natives for market, and the writer ventures an opinion that the introduction of a few of our moderate-priced combined coffee and rice hullers would be attended with beneficial and remunerative results.

The present low quotation for light hides, plus the competition by the South American states, has reduced this branch of the Sierra Leone trade to a minimum as compared with former years.

Copra (the dried meat of the cocoanut) is also an article worthy of notice in the United States; large quantities might be produced here. It is exported to Liverpool in bags and the oil expressed by machinery there, and also in Hamburg and Marseilles. Why not in the United States?

WAGES.

Ordinary laborers' wages are at the rate of 1*s.* (24 cents) per day; mechanics receive from 62 cents to $1. Hours are from 7 to 4, or from 6 to 6, as agreed upon. The cheapness of the native food enables the laborer to live at a cost of from 6 to 10 cents per day. Clerks are paid from $7.50 to $50 per month, according to proficiency and class of employment; domestics, $2 to $10 per month.

Trade unions do not exist, and I know of only one strike during six years, and that collapsed within forty-eight hours.

CUSTOMS REGULATIONS.

There has been no recent change in customs regulations or tariff, except an increase of 50 per cent duty on spirits. The present import duties are 7½ per cent ad valorem on general merchandise. Specific duties are: 72 cents per 112 pounds on iron and hardware, $1.22 per case on kerosene, $1.94 per thousand on lumber, 72 cents per gallon on spirits, 24 to 36 cents per gallon on wines, 36 cents per gallon on malt liquors, $2.43 per 112 pounds on refined sugar, $1.23 per 112 pounds on unrefined sugar, 8 cents per pound on leaf tobacco, and 48 cents per pound on all manufactured tobacco and cigars.

CURRENCY.

The currency is British coin and Bank of England notes; also French dollars. The American $20 gold coin is worth £4.20 sterling ($20.44), and the smaller gold coin pro rata. American silver is not current, but sometimes is exchanged at great discount—say 72 cents to a dollar.

CHAMBER OF COMMERCE AND BANKS.

A chamber of commerce was established in Freetown in 1893, and the British Bank of West Africa during the present year. The rate of exchange varies from 1 to 2½ per cent for bills drawn on England. There is also a Government post-office, savings bank, and the post-office order system.

MAILS.

There is a weekly and semimonthly mail running between Liverpool and West Africa. All the steamers call at Sierra Leone outward and homeward. In addition to these, there are occasional opportunities for homeward mails via Hamburg and Havre by British, and via Havre and Marseilles by the steamers of two French lines. The rate of postage is 5 cents per half ounce to all parts of the world.

SHIPPING.

The total tonnage of shipping entered and cleared at the port of Freetown for the year 1893 was 746,512 tons. Of this the share of the United States was only 3,401 tons.

GENERAL COMMERCE.

The total value of imports from all sources was £417,465 ($2,031,385), and the total value of exports £398,664 ($1,939,899); by far the greatest proportion of both fell to the British carrying trade.

REVENUE AND EXPENDITURE.

The revenue of the colony for the year 1893, derived chiefly from customs duties, was £93,073 ($452,895), and the expenditure £84,690 ($411,442).

COAL, WATER, AND PROVISIONS.

Sierra Leone is a first-class coaling station, and at the same time a second-class naval station. From 8,000 to 10,000 tons of best South Wales steam coal are always kept on hand under sheds. Coal is supplied in bags and by lighters at the rate of 200 to 300 tons per day, according to urgency, and the prices range from $10 to $11 delivered alongside.

Excellent fresh water (said to be the best in Africa) and fresh provisions are always obtainable.

AGRICULTURE.

Agriculture, as regards vegetables, grain, etc., is deplorably neglected. Beyond the cultivation of rice, yams, coarse corn, cassava, chillie, and such like for daily use of the laboring class of the natives, only feeble attempts have been made to produce the better varieties of household vegetables. Potatoes and onions are always imported. Neither wheat, barley, oats, rye, nor hay is grown here, and the fruit—say bananas, plantains, mangoes, avocado (alligator) pears, papaw, cocoanuts, pines, oranges, limes, guavas, sweet and sour sop, breadfruit, and sugar cane—for the most part are simply the products of exuberant nature in the wild and untended state so common to the tropics among various races of aborigines. Great damage was done to the crops this year by locusts.

The rainfall for the year 1893 was registered as 168.6 inches.

NATIVE WARS.

Many circumstances have of late combined to cripple the trade of this colony, of which not the least are the alleged operations of foreign adventurers into the Hinterland, diverting into other channels the caravans which hitherto only came by the recognized legitimate roads to Freetown, which had been opened up by the energy, business enterprise, and capital of the early Anglo-African pioneers. Added to this, are the internecine wars between native rival chiefs, and especially the brutal treatment of the weaker tribes by the "Sofas," a powerful marauding body of men, who, apparently having no desire for a fixed location, wander about the country and with fire, gun, and spear wipe out their unresisting fellow-countrymen, plundering everything portable, and selling the unfortunate captives (who escape death) into slavery, leaving nothing but waste and desolation in their track. It was to punish this tribe, who had also invaded British territory for their lawless purposes, that the officer commanding the garrison here, acting under instructions from the War Office in England, headed a strong military expeditionary force into the interior at the close of last year, and the work seems to have been performed very effectively, but not without the sacrifice of many valuable lives and the ultimate loss of the colonel commanding the troops, who died, as did some of his officers and men, not on the field of battle, but from the effects of malarial fever accelerated by privations and hardships experienced in the "bush" during the very arduous campaign. At the moment of writing, matters on the frontier appear to be developing into a more peaceable condition, and this is confirmed by the recent uninterrupted tour of Colonel Cardew, the officer at present administering the affairs of this colony, through the country lately the scene of visitations by the sanguinary Sofas, and their subsequent overthrow by the British forces.

PROPOSED RAILWAY.

It is hoped that when the frontier line has been correctly and satisfactorily defined, increased traffic from and to the Hinterland will result. It will, however, take no little time to restore confidence and reassure the natives. But perhaps the prospect is a little more cheering to both races now that, at the instance of the Liverpool Chamber of Commerce, the country has been surveyed by a Government official for a light railway from Freetown. Its commencement is looked forward to with much earnestness by the entire mercantile community of Sierra Leone.

THE NATIVE PEOPLE.

It is perhaps not generally known that Sierra Leone, once the resort and rendezvous of pirates and slave-dealers, was not conquered by its present owners, but over a century ago was regularly purchased from the paramount chiefs, then in undisputed possession of the peninsula. The object of the purchase was to destroy the power of the pirates and slave-dealers, and to form a location for such free blacks as might wish to settle under British protection. Among the first to avail themselves of the offer were a number of negroes from the colony of Nova Scotia. Some of their descendants are yet to be found in Freetown.

Between the years 1840 and 1850, all the Africans captured in slave ships by the British cruisers to the north of the line were liberated and located here, and a number of those captured to the south of the line and liberated at St. Helena were, in 1871, deported thence at their own request and located, some in Lagos and the rest here. Besides these, owing to the subsequent large influx of Susus, Mandingoes, Timmenehs, Foulahs, Mendis, Eboes, Akus, Yorubas, and other tribes from the interior, Freetown and its adjacent villages are populated by all the tribes of Africa.

Although the colony boasts of over one hundred years of civilizing influences under British control, it is a remarkable fact that these tribes, as a rule, still retain the superstitions, prejudices, and customs (except, perhaps, in the better educated natives) of their progenitors; and it will at once be seen what a drawback this has been to the general progress and unification of the community at large.

GOVERNMENT.

The government of the colony is administered by a governor, supported by legislative and executive councils, and the usual staff of officials. An attempt is being made to endow Freetown with municipal powers, but beyond the primary stage of a local ordinance, nothing has yet materialized.

MILITARY AND NAVAL FORCES.

The garrison consists of a West India regiment, one hundred houssa artillery, and a small detachment each of royal artillery and engineers. The West African squadron consists of a first-class cruiser (flagship), two other cruisers (second and third-class), two gunboats, and a side-wheel gunboat for river work.

HOSPITALS.

There are two hospitals, the principal being a Government establishment under the supervision of the colonial surgeon, who has two assistants; the other, called the "Princess Christian Cottage Hospital," is supervised by three English women nurses and a surgeon, the expenses being defrayed by voluntary contributions; the services of the women nurses, however, are rendered gratuitously; 6,000 outdoor and 80 indoor patients (natives) were relieved by this hospital in twelve months.

JUDICIAL OFFICERS.

For the administration of justice, there is a supreme court and a chief justice, also a lower court under the direction of a stipendiary magistrate, assisted, when necessary, by several justices of the peace.

A large native police force is maintained, chiefly for frontier service.

DOCKS AND TIDES.

It has for some time been in contemplation to construct a dock for the better accommodation of steamers; but neither this nor the projected railway, nor even the promised municipality, is likely to mature during the present century.

No records are kept nor tables compiled of the tides, and the only information obtainable is that when it is high water at London Bridge the opposite obtains here.

CABLE COMMUNICATION.

Sierra Leone, fortunately, is in cable communication with all the world. The rate to New York is *7s. 7d.* per word.

EDUCATION.

There are quite a number of schools, elementary and technical, mostly of the denominational type. There is also a college (the Fourah Bay College), affiliated with the University of Durham, England. Among the ordinary schools deserving of mention are the grammar school for boys and the industrial school for girls, under the immediate supervision of the London Church Missionary Society (the girls' school endowed by the late Miss Annie Walsh and called after her name), the Wesleyan High School, the Cathedral Day School, and the Roman Catholic Industrial School for Girls—all doing good work.

There is a board of education composed of members (mostly clergy) of the various Christian denominations, and all the public schools receive state aid pro rata for proficiency as reported by the government inspector.

The literature of Sierra Leone is confined to two newspapers, copies of which accompany this report.

RELIGION.

Most of the educated residents in Freetown are divided among the Episcopalians, Wesleyans, United Free Methodists, and Baptists, nearly all using in their various places of worship, in a more or less modified form, the liturgy of the Church of England; and it is somewhat curious that all denominations insist upon this. There are probably about 10,000 or more Roman Catholics, and it would be difficult to say how many Moslems.

The Protestant churches include the cathedral, and perhaps over a dozen others of the sects already named. There is one Roman Catholic church, and two or three mosques.

QUARENTINE, ASYLUMS, AND PRISONS.

There is a quarentine lazaretto, and the quarentine regulations as regards shipping and the lazaretto are similar to those in force in other British colonies. The same may be said of the asylum for the insane, the prisons, and all such institutions for the public welfare which come immediately under State control.

ROBERT P. POOLEY,
Consul.

SIERRA LEONE, *June 30, 1894.*

INDIAN CORN IN BELGIUM.

There is nothing which the modern European accepts so reluctantly as unaccustomed food. Were a special edict laid upon all strange dishes, he could not be more conservative. Bills of fare seem to descend as heirlooms in families, and all things else but the cookbook may be revised.

While the thistle (cardoon) has been for centuries a favorite article of diet, the tomato goes begging for acceptance. Though often seen in mixed salads, for its color more than its flavor, it is seldom served as a separate vegetable.

Oysters, eaten raw for thousands of years, are totally unknown to their cookery. A Belgian now living in Virginia, told me that he had sent barrel after barrel of as fine bivalves as ever came out of the sea to his old friends here, with special instructions for preparing them, but, as their ancestors had never eaten them cooked, they could not be induced to make the experiment. Mussels, however, such as abound in every creek and estuary in the United States, but which fishermen in the United States will not touch, are here boiled in their shells and brought to the table in stacks, to the great delight of the epicures. Celery, which with us is cultivated for its stalks, and nearly always eaten raw, is grown here for its roots, and invariably cooked.

But in nothing is this gastronomic conservatism so strikingly illustrated as in its obstinate resistance to American corn or maize. In looking for the causes of this prejudice, I recall that the Indian corn grown in the Eastern States, whence all the earlier exportations were made, is of an inferior variety; that while it may be richer, bushel for bushel, in all the elements of nutrition to that grown in the west, it is, perhaps, for this reason less appetizing and less digestible. Men reared in the west scarcely recognize their favorite pabulum in the Indian corn bread of the Eastern States.

If my acquaintance with corn bread had begun in Boston, I am afraid I should now share the European prejudice against American corn. Indeed, the New Englanders themselves seem to share this "prejudice," for corn bread has almost ceased to be an article of food among them. Strangely enough, this little yellow indigestible flint corn is, practically, the only American Indian corn known in Belgium. It became the seed corn of Europe, and once in possession of the soil and its hereditary right established, it was, of course, impossible to supplant it. Of the 500,000,000 bushels produced in Europe, not one-tenth is of the other varieties. It is so much cheaper than the "dent" corn of the same color, which forms the bulk of our exports, and so much more desirable for the purposes to which it is applied, that its control of the market is not surprising.

It will surprise our western farmers to be told that the chief use of this product in Belgium is to feed chickens. This is, however, from no fault of the people, as I found the grocers and provision dealers of this city (Liege) not only uninformed but incredulous, of the existence of white corn—the only variety that should ever be sent to mill—and its numerous appetizing products.

Another reason, and in itself a sufficient one, why corn has not prospered in Europe is that the people, from of old, and from notions of economy, have become accustomed to cold bread. The labor, time, fuel, and loss from miscarriage involved in the daily baking of a wheaten loaf, led some centuries ago to weekly cooking. Up to recent years, every rural household in Europe had an outside oven—as the country people in Quebec have to this day—in which all the bread consumed by the family in a week was baked with one fire and in an hour's time. But when the economy embraced in the "division of labor" came to be understood, the industry passed into the hands of the bakers.

The habit of eating stale bread is now ascribed to its superior wholesomeness, although to prove that sanitation had nothing to do with its origin I need only mention that waffles a week old, and tough as leather, are now peddled by bakers and furnish the holiday repasts of the people; but corn bread loses much of its relish when cold. Had we only made it known that, unlike the wheaten loaf, corn bread can be prepared and cooked while the tea-kettle is boiling, its fate might have been very different.

Nor have we been altogether without fault as salesmen. Instead of offering it as one of the noblest products of the earth, we have apologetically tendered it as something a little better than black bread for peasants, disgracing alike the rich and the poor—for even the pauper revolts at an intimation that that which the rich man despises is good enough for him. Its excellence, therefore, and not its cheapness, should be the chief recommendation of our great cereal.

The food we eat produces only two effects, viz, the supply of animal heat, and the repair of the waste which is constantly going on in our tissues. For these purposes meat, or its equivalent, supplies the heat, and vegetables the waste of tissue.

Meat is so expensive in Europe that many persons go without it rather than do the work necessary to secure it, even if constant work were obtainable. The climate, too, is so mild, certainly within the isothermal lines of Belgium, that great quantities of meat food would be injurious to health. Fortunately there is found in certain vegetable products, among which Indian corn is preëminent, enough of fat to meet all the demands of nature. Indeed, it is the peculiar virtue of American corn that it at once supplies the heat and restores the waste of the animal economy. Nearly equal to wheat in starch, it contains several times more oil than that cereal.

Entertaining these views of the value of our great staple as food, I have taken a more than official interest in giving it a new start in Belgium. About six months ago I conferred with the largest and most enterprising grocer in Liege, if not in the Kingdom, and urged him to make it a specialty. It required much argument to overcome his incredulity. He had never seen any product of maize, except corn starch, which he thought his customers would eat, but when I expatiated upon batter-cakes, egg-bread, and hominy, he consented to make the effort. It was agreed that, if I would furnish him a list of white-corn foods and the recipes for cooking them, he would supply the stock and advertise as I directed. I at once made up a catalogue, gave him the address of a New York dealer, and wrote to Kentucky for all the aproved formulas known to its cuisine. The grocer then issued a special edition of his trade pamphlet, following each article on the American list with its recipe, and scattered them broadcast over the province.

Although it is too early to report upon the experiment, I have no more doubt of its success than if it were already a matter of history.

As the plan involves no risk, it might be worth while to try it in other consular districts.

I would say, in conclusion, that the success of the Department of Agriculture in introducing corn goods into Scandinavia seems to be assured, and is one of the greatest achievements of recent official effort in this direction. Why should not these same methods be employed in all other available fields? And why should not these efforts by the Government be supplemented by private enterprise? If commercial agents, representing reliable houses and equipped with samples of a high class, were sent abroad to canvass in those countries where Indian corn is duty free, the returns could not fail to be both large and continuous.

NICHOLAS SMITH,
Consul.

LIEGE, *June 1, 1894.*

SUGAR INTERESTS OF CUBA.

The Agricultural Review, the official organ of the sugar planters, has just published the report made in answer to its queries respecting the means of improving the present deplorable condition of the sugar interests.

Upon the basis of this report, which has been prepared by the honorary member, Don Adolfo Muñoz y del Monte, and approved by the directors, the board now proposes to draw up a statement to the Spanish Cortes as soon as the latter reopens its sessions.

The report, which is a very complete work, and in which are recited the causes that have led to the present crisis in the sugar industry, pointing out the remedies that might bring on a return of prosperity, is divided into parts under the following ten headings: (1) the budget law; (2) the sugar plantations; (3) illusory wealth of Cuba; (4) the sugar industry; (5) the real poverty of Cuba; (6) the causes of the poverty of Cuba; (7) the tariff; (8) exports; (9) conclusion; (10) appendix, in which the author treats mostly of the revenues arising from the customs.

RAMON O. WILLIAMS,
HABANA, *August 16, 1894.* *Consul-General.*

REPORT ON THE CUBAN SUGAR INDUSTRY.

[Synopsis of a report in the "Revista de Agricultura" (Agricultural Review) of August 5, 1894—Translated in the Department.]

The crisis which has been oppressing the Cuban sugar industry ever since 1884, was aggravated by the disturbance caused by the calling in of the war notes before the budget had been met by the surplus, and without taking the precaution to adjust the monetary system; the fall in the prices of sugars, resulting from the general increase of production, coöperated with the insufficient amount of circulating medium and the loss of credit caused by that measure, so that, in spite of the unprecedented crop of one million tons made by the planters last season, the situation became extremely critical to the owners of sugar works, and they looked forward with terror to the "dead season" and the future struggle which they had to encounter without the necessary resources or the possibility of obtaining them.

A monetary disturbance and a fall in the prices of the products of any industry are, however, merely transient evils when that industry is established on a firm basis; these are, consequently, not the chief causes of the gravity of the situation. The real cause is to be found in the fact that the economical conditions under which the wealth of Cuba is being developed are a work of experiment and prejudice, and that the principles which tended to build up the sugar industry during the last century have been abandoned, and others adopted which are based upon the commercial subjection of other countries. The natural resources of the country are being used more and more every year to support artificial industries, while the Cuban sugar-planter finds it impossible to lay aside the smallest reserve fund to aid him in bearing those transitory periods of depression which occur in all business and enterprises.

All the former wealth created by the sugar plantations through the instrumentality of slave labor has disappeared, owing to the civil war and economic revolutions, and the capital which they now represent is, in spite of the efforts of free labor, almost entirely unproductive in consequence of the new and difficult conditions of production, and the burdens which weigh without distinction upon all industries, including those which are auxiliary to the sugar industry.

The people of Cuba are gradually being converted into a genuine democracy, but they are not yet well disciplined in habits of order and foresight, which involve the desire for constant occupation, and the consequence is that the price of labor is exorbitant in comparison with the value of the products. The sugar plantations can rarely obtain, at the proper time, the labor necessary to carry on their operations; hence the benefit of the previous outlay is frequently lost, and operations have to be discontinued, either from inability to satisfy the exorbitant demands of the laborers at the critical moment, or from the absolute want of proper laborers. Most of the laborers appear to be entirely indifferent as to the prosperity of the industry which supports them. Having no desire to improve their moral or physical condition, and without moral stimulus of any kind, they squander millions of dollars every year in useless expenses, including gambling and other vices, which convert the plantations into centers of demoralization and corruption.

The sugar planters find it no less difficult to obtain a constant supply of scientific and skilled labor than of that which is merely manual, and the injury suffered by most of the sugar works, through the want of competent operatives, is felt more severely every year in proportion to the progress made by other more civilized rival countries, where everything is utilized to improve and cheapen the production of sugar.

The government theory that the activity in the sugar industry of Cuba and the consequent greater production are incontestable proofs of the prosperity of the Island, is utterly erroneous and unfounded. So large a capital has been invested in the manufacture of sugar in Cuba, and so great a portion of the soil has been assigned to the cultivation of sugar cane, that the Island is compelled to manufacture sugar in great quantities, as a matter of vital necessity, although it lacks many of the most essential means for that purpose, including capital, labor, and improved machinery. Under these disadvantages the planter receives so small a return for his outlay that he can barely meet his expenses, while the far greater part of the large sums which he pays for labor is wasted in vice and dissipation, does little or nothing for the material prosperity of the Island, and serves only to retard its moral progress by supplying the laborers with means of gratifying their physical instincts. Commerce is almost the only industry that profits by this large sugar production.

The minister of the colonies, addressing the Cortes on June 8, 1892, laid down the proposition that the true test of the wealth and prosperity of a country consists in its export trade, and added that the flourishing condition of Cuba was proved by the fact that, while the exports of Spain were only $10 annually for each inhabitant, those of Cuba were $50. The falsity of the proposition will be seen from the following table giving the exports per head in 1891:

Great Britain	$32.70
France	18.64
Germany	16.89
United States	13.92
Spain	10.67
Cuba	50.00

According to the minister's proposition, these figures would prove Cuba to be the wealthiest country in the world—richer by one-half than England, and nearly four times as rich as the United States; and yet well-known facts, as well as the most accurate statistics, show that both England and the United States are far more wealthy than Cuba.

Another of the fallacious arguments used in the preamble to the Spanish Budget for 1892–'93 to prove the growing prosperity of Cuba, is "that the receipts from the crown taxes are steadily on the increase." This fact is far from proving the prosperity of the Island. This greater yield is not the result of a state of prosperity, which, in the words of the minister of the colonies, "facilitates and multiplies business transactions;" the real cause of it is the fact that, ever since 1884 real estate, and the sugar plantations especially, have been in a very depressed condition. Mortgage debts and those of other kinds have gone on accumulating upon them until, in many cases, the property has had to be sold; but while the crown taxes on the sales are paid in money, the same is not the case with the sums representing the value or price of the property alienated. The transactions to which the preamble refers were, in most cases, the inevitable results of a situation which could not be maintained, and which ended in compulsory sales at very low prices, the evil effects of which were aggravated by the necessity of paying in money these same crown taxes, which, while they help to fill the coffers of the treasury, also serve to make settlements more difficult, and to advertise publicly the failure of some useful enterprise or the wreck of former fortunes.

Another cause of the increase in the receipts from the crown taxes, in spite of the poverty under which the Island is suffering, is the habit of interpreting the regulations in a manner so extremely favorable to the treasury that many kinds of documents which had never previously paid that tax, have gradually been included among those which are forcibly subjected to it.

The preamble to the budget for 1892–'93 also states that "the receipts from the tax on liquors are gradually increasing, owing, no doubt, to the greater prosperity which wealth and labor are diffusing among all classes."

The increased receipts from the tax on liquors can not be regarded in Cuba as a sign of prosperity. In the first place, the use of liquors in this climate is in direct proportion to the progress of evil habits, and to nothing else; and, in the second place, the proofs of the real poverty of the Island are so convincing that no increase, small or great, in the consumption of liquors can prove that wealth abounds in Cuba. There can be no more evident mistake than to suppose that the increasing consumption of liquors is caused by the prosperity of labor, as the good laborers in Cuba are not addicted to them; and, if in spite of this, there is an increase in the consumption of them, it is the effect of the demoralization which ignorance and vice have introduced into the worst class of laborers. The very Spanish immigrants who were temperate at home, frequently contract drinking habits here, either through homesickness or because they think that, by this means, they neutralize the debilitating effects of the tropical climate—a fatal mistake which leads them to degradation or death, as it is not so much the climate as the use of alcoholic beverages that increases the mortality among the European immigrants, who, from the moment they abandon habits of sobriety, unfit themselves for work and soon die off.

In countries better organized than Cuba, whatever may be their climate, if vices exist among the laboring classes there are also habits of morality and prudence, by virtue of which the savings of the poorer classes, to the amount of billions of dollars, are accumulated in savings banks to their own advantage as well as that of the country in which they live; whereas in Cuba there is not a single institution in which laborers can deposit their savings and draw interest on them. Owing to the absence of such institutions the little savings of the laboring classes, which, in more advanced countries constitute a guarantee of social order and of a constant increase of the national wealth, are here miserably squandered in gin, brandy, and lottery tickets.

From 1857 to 1884, the Cuban sugar-planters found that the greatest profit was to be derived from the manufacture of the best white sugars; but, in 1884 a revolution occurred in the sugar industry, caused by the enormous quantities of beet-root sugar manufactured by France, Germany, and other European countries. These countries, which had previously imported all their fine sugars from Cuba, not only manufacture them now themselves of better quality and at a lower price for their own consumption, but export sugar, both raw and refined, in immense quantities to all the countries which furnish a market for sugar, the sugar production of these European countries, which was formerly insignificant, being now much larger than that of Cuba herself. The change of circumstances has been so radical that to-day there are no sugar mills in Cuba manufacturing the white sugars which had so greatly the preference from 1856 to 1884. The Cuban sugar-planters are now convinced that, in order to sustain themselves against foreign competition, they must manufacture raw sugar; and they have consequently undertaken to make a difficult and expensive alteration in their sugar works by changing them into what are called central mills, in which that kind of sugar can be economically made. This involves borrowing the necessary capital, and it may safely be asserted that, with very few exceptions, the sugar works in Cuba not only yield no profits but they do not meet expenses, including interest.

The unfortunate condition of the sugar industry in Cuba may be ascribed to three principal causes, to-wit: The defective economical regime established in the Island, the abolition of slavery without compensation to the owners of the slaves, and the great fall in the price of sugar since 1884.

In addition to this, many imported articles which are indispensable to the sugar industry in Cuba are burdened with duties of from 50 per cent to 100 per cent of their value.

No previous period in the history of the Cuban sugar works has been so disastrous as that beginning in August, 1893. The sugar-planters, with few exceptions, suffered heavy losses, although the quantity of sugar produced was among the largest ever known in the Island.

EXPORTS DECLARED FOR THE UNITED STATES.*

FRANCE.

Exports to the United States from France during the quarter ending June 30, 1894.

Articles.	Paris.	Bordeaux.	Grenoble.	Havre.	Limoges.
Albumen	$7,114				
Argols and cream of tartar	26,325	$12,101			
Art, works of	46,659			$1,920	
Blacking	23,380				
Books and engravings	69,503	116			
Boots, shoes, and leather manufactures	549			406	
Brandy and liquors	7,043	19,675	$10,208	8,477	$658
Bristles	21,639			13,845	
Brushes	55,506				
Buttons and trimmings	121,415				
Carpets	1,723				
Carriages	883				
Cheese		281	10,100	5,521	
Chemicals (not elsewhere specified)	33,277	1,904			
Church ornaments and metallic trimmings	16,673				
Clocks, watches, and materials of	6,965				
Coffee				378,842	
Corsets	35,214				
Costumes and dresses	27,029			193	
Cotton goods	90,833				
Drugs and medicines	33,611				
Dyestuffs	14,249	3,644		24.569	
Fancy goods	165,111				
Feathers and flowers (artificial) and millinery	377,314			10,705	
Furniture, cabinet wood, and household effects	34,985	102		2,358	
Glass, porcelain, and pottery	39,634	144			135,236
Gloves	31,251		84,920		
Glue	29,372				
Gum senegal	2,149	9,188			
Hair:					
Human	7,031			4,841	
Animal		4,109			
Hardware, machinery, manufactures of metal, etc	23,230	5,669	182	623	
Hatters' goods and furs	561,449				2,544
Hosiery	13,398				
India rubber, and manufactures of	9,098				
Jewelry and precious stones	457,066				
Laces, tulles, and crapes	146,784				
Linen goods	11,708				
Macaroni and other alimentary pastes	2,463	3,633	262		
Merinos, cashmeres, and miscellaneous dress goods	158,351			223	
Millstones, plaster, and cement	4,640				
Miscellaneous goods	197,783	3,400		11,551	
Musical instruments	19,233				
Oils (except essential)		80,640		535	
Optical and scientific instruments	59,466				
Paints and colors	18,363	2,115		1,005	

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* Received too late for publication, with similar reports from other countries, in CONSULAR REPORTS No. 168, September, 1894.

Exports to the United States from France during the quarter ending June 30, 1894—Cont'd.

Articles.	Paris.	Bordeaux.	Grenoble.	Havre.	Limoges.
Platinum	$26,1 2				
Preserved:					
Fruits and vegetables	45,257	$126,513		$377	$2,504
Meat and sardines	13,908	45,566		52	
Prunes, raisins, nuts, etc		49,278	$4,016		
Rags and old paper	6,155	5,344		5,622	
Seeds and plants	3,212				
Shawls	1,991				
Silk, manufactures of	63,692				
Skins, hides, and leather	163,509	25,685		194	
Stationery and paper	20,966	16,265			
Sugar and confectionery	14,544	385		60	
Toilet articles and perfumery	141,873				
Upholstery goods and wall paper	60,191				
Whalebone and horn tips for corsets	39,167				
Willows, wood, woodenware, and empty barrels	7,210				
Wines	5,283	187,808			
Wool and woolen waste				7,761	
Woolen cloth	8,879				
Zinc				232	
Total	3,632,058	603,595	109,688	479,972	140,942
Total for same quarter in 1893	6,464,011	957,832		408,739	217,358
Increase				71,233	
Decrease	2,831,953	354,237	*1,090,688		76,416

Articles.	Lyons.	Marseilles.	Nantes.	Nice.	Rheims.
Argols and cream of tartar	$97,976	$14,851			
Art, works of	1,652			$96	$1,800
Books and engravings			$1,536		103
Brandy and liquors		1,293			726
Chemicals (not elsewhere specified)	2,057	5,570			721
Church ornaments and metallic trimmings	33,431				
Clocks, watches, and materials of	5,488				528
Corsets					241
Cotton goods	3,004		183		2,054
Drugs and medicines		12,231			5,189
Dyestuffs	8,000				
Fancy goods	23,106				
Furniture, cabinet wood, and household effects		3,552	193	11,894	
Glass, porcelain, and pottery				370	16,276
Gloves		644			22,294
Glue	8,040	8,541			
Hair (animal)	4,720	5,739			
Hardware, machinery, manufactures of metal, etc	4,915		1,866	96	3,329
Hatters' goods and furs					7,233
Hosiery					6,229
India rubber, and manufactures of		1,463			3,796
Laces, tulles, and crapes	744			194	
Lemons		45,927			
Linen goods				957	
Macaroni and other alimentary pastes	8,179	6,007			

*Grenoble was raised from an agency (under St. Etienne) to a consulate on June 27, 1893, previous to which date its declared exports were embraced in the St. Etienne returns.

Exports to the United States from France during the quarter ending June 30, 1894—Cont'd.

Articles.	Lyons.	Marseilles.	Nantes.	Nice.	Rheims.
Merinos, cashmeres, and miscellaneous dress goods					$1,152
Millstones, plaster, and cement		$8,597			
Miscellaneous goods	$11,102	13,730	$57		2,124
Musical instruments	1,867				106
Oils (except essential)		54,169		$17,372	
Optical and scientific instruments	2,829				
Paints and colors		7,383	1,516		
Preserved:					
Fruits and vegetables	524	31,409	15,257		
Meat and sardines			35,548		
Prunes, raisins, nuts, etc		67,882			
Rags and old paper		954			
Seeds and plants		11,976			
Silk:					
Raw, waste, and combed	371,527				
Manufactures of	1,029,046				
Skins, hides, and leather	8,343	78,910			
Soap (ordinary)		15,037			
Stationery and paper	488	3,719			
Sugar and confectionery				194	
Tin and tinfoil					87
Toilet articles and perfumery		2,539		71,251	
Willows, wood, woodenware, and empty barrels		6,353			6,525
Wines	33,908	19,250	2,952	170	1,074,242
Wool and woolen waste		77,172			
Total	1,660,946	504,898	59,108	102,594	1,154,755
Total for same quarter in 1893	2,257,072	535,258	114,121	73,448	1,702,210
Increase				29,146	
Decrease	596,126	30,360	55,013		547,455

Articles.	Roubaix.	Rouen.	St. Etienne.	Total.
Albumen				$7,114
Argols and cream of tartar				151,253
Art, works of				52,127
Blacking				23,880
Books and engravings				71,258
Boots, shoes, and leather manufactures				955
Brandy and liquors				150,159
Bristles				35,484
Brushes				55,506
Buttons and trimmings			$18,364	139,779
Carpets				1,723
Carriages				883
Cheese			6,276	22,178
Chemicals (not elsewhere specified)	$7,396	$659		51,584
Church ornaments and metallic trimmings				50,104
Clocks, watches, and materials of				12,981
Coffee				378,842
Corsets				35,453
Costumes and dresses				27,222
Cotton goods				96,074
Drugs and medicines	4,354			55,385
Dyestuffs				50,462
Fancy goods				188,217
Feathers and flowers (artificial) and millinery				388,019

Exports to the United States from France during the quarter ending June 30, 1894—Cont'd.

Articles.	Roubaix.	Rouen.	St. Etierne.	Total.
Flax and tow	$32,466			$32,466
Furniture, cabinet wood, and household effects				53,084
Glass, porcelain, and pottery	146			191,806
Gloves			$3,316	142,425
Glue				45,953
Gum senegal				11,337
Hair:				
Human				11,872
Animal	1,639			16,207
Hardware, machinery, manufactures of metal, etc	4,111		4,445	48,556
Hatters' goods and furs				571,226
Hosiery				19,627
India rubber and manufacturers of				14,357
Jewelry and precious stones				457,066
Laces, tulles, and crapes	16,522	$549,043	7,618	720,905
Lemons				45,927
Linen goods	210	1,337		14,212
Macaroni and other alimentary pastes				20,544
Merinos, cashmeres, and miscellaneous dress goods	264,763			424,489
Millstones, plaster, and cement				13,237
Miscellaneous goods	21,174	830	868	262,619
Musical instruments		748		22,054
Oils (except essential)				153,057
Optical and scientific instruments				62,295
Paints and colors				30,382
Platinum				26,152
Preserved:				
Fruits and vegetables				221,841
Meat and sardines				95,074
Prunes, raisins, nuts, etc			253	121,429
Rags and old paper		7,670		25,765
Seeds and plants				15,188
Shawls				1,991
Silk:				
Raw, waste, and combed	425		1,021	372,973
Manufacturers of			154,831	1,247,569
Skins, hides, and leather				276,641
Soap (ordinary)				15,037
Soap grease from the skins of sheep	11,913			11,913
Stationery and paper				41,584
Sugar and confectionery			201	15,384
Tin and tinfoil				37
Toilet articles and perfumery				215,663
Upholstery goods and wall paper	41,780	1,126		103,097
Whalebone and horn tips for corsets				39,167
Willows, wood, woodenware, and empty barrels				20,088
Wines		1,060		1,324,763
Wool and woolen waste				84,933
Woolen cloth		596		9,475
Zinc				232
Total	406,899	563,089	197,193	9,718,393
Total for the same quarter in 1893	1,034,763	492,638	671,090	15,108,431
Increase		70,451		
Decrease	627,864		473,897	5,390,038

Included in the foregoing total are brandy and liquors, $107,479; oils, $341; wines, stationery, etc., $236, from the Cognac consulate.

CLYDE SHROPSHIRE,
Vice-Consul-General.

PARIS, *September 6, 1894.*

BRITISH INDIA.

Exports to the United States from British India during the quarter ending June 30, 1894.

Articles.	Bombay.	Calcutta.	Madras.	Rangoon.	Total.
Art metal-ware (brass, copper, and silver)	$884.54				$884.54
Carpets	3,627.47				3,627.47
Cotton goods	1,667.55				1,667.55
Curios	3,324.51			$108.50	3,433.01
Dress goods	267.80				267.80
Drugs	8.85	$290,411.75	$24,464.00	13,769.25	328,653.85
Fishing poles		252.00			252.00
Furniture	732.89				732.89
Gunny:					
Bags		126,502.00			126,502.00
Cloth		487,276.50			487,276.50
Hides		62,113.50			62,113.50
Jute		87,287.50			87,287.50
Jute butts and rejections		190,207.75			190,207.75
Linseed		111,543.00			111,543.00
Mica		27,316.25			27,316.25
Mother-of-pearl shells	3,308.54				3,308.54
Oil	1,143.25	1,378.75			2,522.00
Paper stock		1,305.25			1,305.25
Rice		19,314.50			19,314.50
Rubber		43,319.50		576.75	43,896.25
Saltpeter		122,337.25			122,337.25
Silk (raw)		2,347.00			2,347.00
Skins		480,529.75	567,074.25		1,047,604.00
Seeds other than linseed	7,167.68				7,167.68
Sugar (jaggery)			81,099.36		81,099.36
Tea		2,944 25			2,944.25
Woolen goods	210.23				210.23
Miscellaneous	499.45	3,029.00			3,528.45
Total	22,842.76	1,959,415.50	672,637.61	14,454.50	2,669,350.37

V. L. POLK,
Consul-General.

CALCUTTA, *August 6, 1894.*

TAXATION IN SWITZERLAND.

Continual complaints are made regarding the high taxes levied here, and the complicated modes of assessment. Inexperienced or non-expert people are almost at a loss to understand the amounts of imposed taxes. It takes an expert indeed to throw light on the subject, and he can only solve the problem and demonstrate the same by a series of examples.

The taxes levied in the city of Zurich are as follows: (*a*) The state or cantonal tax, consisting of a property tax, an income tax, and a citizenship tax (the latter only for authorized voters); (*b*) the municipal tax, consisting of a property tax, an income tax, and a head tax (the latter payable only by men who have attained their majority); (*c*) the rent tax; (*d*) the pauper tax; (*e*) the church tax; (*f*) the fire department tax (payable by those not active volunteer firemen); (*g*) the military tax (for Swiss citizens exempt from military duty); (*h*) the compulsory building insurance tax (really not a tax but so called here, as almost every house-owner would insure without it); (*i*) the dog tax.

CANTONAL TAXES.

The following tax is levied in the entire canton: Property tax, 4 francs per 1,000 francs of the assessed portion of the property.

Part 11 of the tax law says regarding the assessed portion: The following parts of the property of each individual taxpayer are assessed five-tenths of the first 20,000 francs, six-tenths of the next 30,000 francs, seven-tenths of the next 50,000 francs, eight-tenths of the next 100,000 francs, nine-tenths of the next 200,000 francs, and ten-tenths of all exceeding 400,000 francs. The same amount is levied on each thousand of these assessed portions. Examples—A has property worth 1,000 francs; accordingly, five-tenths of this (500 francs) is the assessable portion, and, at the rate of 4 per mille he pays a property tax of 2 francs. B is worth 20,000 francs; of this sum five-tenths also are taxable (10,000 francs), on which, at the rate of 4 per mille, he pays 40 francs.

The second group includes people with property worth between 20,000 and 50,000 francs, and here we find a different proportion. A is worth 25,000 francs; the assessable portion of the first 20,000 francs is five-tenths, or 10,000 francs; of the further 5,000 francs six-tenths, or 3,000 francs, or a total taxable part of 13,000 francs; the tax thereon, at 4 per mille, is 42 francs. B is worth 50,000 francs; the assessable portion is five-tenths of 20,000 francs, or 10,000 francs, six-tenths of 30,000 francs, or 18,000 francs; total, 28,000 francs, at 4 per mille, equaling 112 francs. In other words, to ascertain the assessable portion of the property we have to take five-tenths of the first 20,000 francs and six-tenths of the sum above 20,000 francs and under 50,000 francs.

In the third group we take five-tenths of the first 20,000 francs, six-tenths of the next 30,000 francs, and seven-tenths of the portion from 50,000 francs up to 100,000 francs. Example—B is worth 90,000 francs; the taxable portion is five-tenths of 20,000 francs, or 10,000 francs; six-tenths of 30,000 francs, or 18,000 francs, seven-tenths of 40,000 francs, or 28,000 francs; total assessable, 56,000 francs, at 4 per mille, equaling 224 francs.

For the further groups we figure the same way, taking eight-tenths of the sum from 100,000 francs up to 200,000 francs, and nine-tenths from 200,000 up to 400,000 francs. If a man has property worth over 400,000 francs, he has to pay a tax on the amount exceeding that sum. The assessed portion of property worth 400,000 francs is 323,000 francs; the assessable part of 425,000 francs, for instance, is 348,000 francs, etc.

INCOME TAX.

This tax is somewhat more complicated. It is levied only on regular incomes, as profits derived from regular business pursuits, salaries of clerks, incomes of mechanics, etc., but does not apply to incomes from property, as rents, interest on bonds, dividends on stocks, etc., these being already scheduled and paying a regular tax. The object of this is to avoid double taxation.

Part 12 of the cantonal tax law reads: "The following portions of the taxable income are assessed (500 francs of each income being exempt from taxation), viz: Two-tenths of the first 1,500 francs, four-tenths of the next 1,500 francs, six-tenths of the next 3,000 francs, eight-tenths of the next 4,000 francs, ten-tenths of the amounts exceeding 10,000 francs. Each 100 francs of assessed income pays 2 francs tax for every franc per thousand levied on property assessed."

Four francs being at present levied on assessed property, it follows that the tax on 100 francs of assessed income is 8 francs. Examples—A has a yearly income of 800 francs; deducting the 500 francs exemption, we find 300 francs taxable, two-tenths of which, *i. e.*, 60 francs, are assessed. At the rate of 8 francs per 100 francs this sum pays a tax of 4.80 francs. B, with an income of 1,500 francs, less exemption 500 francs, has a taxable income of 1,000 francs, two-tenths of which, or 200 francs, are the assessable portion, and the tax thereon is 16 francs at the rate of 8 per cent.

Now to the second group, with a taxable income of 1,500 francs to 3,000 francs, or gross income of 2,000 francs to 3,500 francs: A has an income of 2,400 francs; deduct exemption, 500 francs; taxable income, 1,900 francs; two-tenths of the first 1,500 francs, equaling 300 francs; four-tenths of the further 400 francs, equaling 160 francs; assessable portion, 460 francs, at 8 per cent, equaling 36.80 francs.

Fourth group—Income, 10,000 francs; exemption, 500 francs; taxable income, 9,500 francs; two-tenths of the first 1,500 francs, equaling 300 francs; four-tenths of the next 1,500 francs, equaling 600 francs; six-tenths of the next 3,000 francs, equaling 1,800 francs; eight-tenths of the balance, 3,500 francs, equaling 2,800 francs; assessable portion, 5,500 francs, at 8 per cent, equaling 440 francs.

Fifth group—Incomes of over 10,000 francs will be assessed for the whole portion, *i. e.*, ten-tenths of the amount exceeding 10,000 francs. The assessable portion of 10,000 francs being, as above shown, 5,500 francs, the assessable portion of 15,000 francs, for instance, will be 10,500 francs, etc.

CITIZENSHIP TAX.

This tax is payable by all Swiss citizens entitled to vote, and amounts to one-third of the tax levied per thousand on property assessment. Therefore this year the tax levy being 4 francs per thousand, one-third of the same is 1.33 francs, and so each voter pays a tax of 1.33 francs per annum.

TOWNSHIP TAX.

This, like the cantonal tax, consists of a property tax, an income tax, and a head tax. While the cantonal tax is the same in all the communities of the canton, the municipal tax varies in proportion to the needs of each community. All the municipalities of the canton (except the cities of Zurich and Winterthur), levy a tax on the real property, on household, and also a head tax. Zurich and Winterthur levy an income tax in addition thereto. Zurich levies no household tax, but the head tax has been raised by one-half. The city levies a property tax of 6 centimes per 1,000—for instance, 5,000 francs pay 30 francs; 10,000 francs pay 60 francs; 100,000 francs pay 600 francs; 1,000,000 francs pay 6,000 francs, etc., no portion at all being exempt.

The mode of taxation of the income tax is more complicated, and to explain it we will have to study the respective law. Under paragraph 69 of the law the city levies an income tax, 1,000 francs of each income being exempt; furthermore, a family can deduct 200 francs for each child under 16 years of age. Where a property tax of one per mille is levied, there will also be levied an income tax of 20 centimes on every 100 francs up to 2,000 francs; 25 centimes on additional 100 francs up to 3,000 francs; 35 centimes on additional 100 francs up to 4,000 francs; 50 centimes on additional 100 francs up to 6,000 francs; 75 centimes on additional 100 francs up to 10,000 francs; 100 centimes on additional 100 francs exceeding 10,000 francs.

Paragraph 70. All persons residing in the city, and all corporations and stock companies having their domicile therein, paying the cantonal tax, are also subject to the municipal income tax; also non-residents deriving incomes from business pursuits in the city.

Paragraph 71. The cantonal tax-registers serve as a basis for levying municipal taxes.

The city of Zurich, levying at present a property tax of 6 per mille, the first group are paying 6 times 20 centimes, or 1.20 francs per 100 francs. Example—A has an income of 1,000 francs; he pays no tax, the whole being exempt. B earns 1,800 francs, of which 1,000 francs are exempt; he pays therefore an income tax on 800 francs—8 times 1.20 francs, equaling 9.60 francs—provided that he has no children under 16 years. C earns 1,800 francs, but has 3 children under 16 years. He calculates as follows: Income 1,800 francs; amount of exemption, 1,000 francs; 200 francs for each child free, 600 francs; taxable, 200 francs at 1.20 francs, equaling 2.40 francs.

Second group—Income from 2,001 francs to 3,000 francs, with a tax of 6 times 25 centimes, equaling 1.50 francs per 100 francs. Examples—A earns 2,700 francs, 1,000 francs of which are exempt; the amount taxable is 1,700 francs. He pays of the first 1,000 francs (up to 2,000 francs) 10 times

1.20 francs, equaling 12 francs; of the next 700 francs (2,000 to 2,700 francs) 7 times 1.50 francs, equaling 10.50 francs; total tax, 22.50 francs. B has also an income of 2,700 francs, but he has 4 children under 16 years of age; the amount exempt is 1,000 francs; exemption for 4 children at 200 francs each, 800 francs; total exemption, 1,800 francs. The balance of 900 francs is taxed as follows: Two hundred francs at 1.20 francs, equaling 2.40 francs; 700 francs at 1.50 francs, equaling 10.50 francs; total 12.90 francs.

Incomes of over 10,000 francs will be taxed 6 times one franc, or 6 francs for each 100 francs in excess of 10,000 francs. Example—For incomes of 20,000 francs (no children) amount exempt, 1,000 francs; taxable, 19,000 francs. He pays of the first 1,000 francs 1.20 francs per cent, equaling 12 francs; of the next 1,000 francs 1.50 francs per cent, equaling 15 francs; of the next 1,000 francs 2.10 francs per cent, equaling 21 francs; of the next 2,000 francs 3 francs per cent, equaling 60 francs; of the next 4,000 francs 4.50 francs per cent, equaling 180 francs; of the last 10,000 francs (highest rate) 6 francs per cent, equaling 600 francs. Total tax, 188 francs. Thirty thousand francs would pay 1,488 francs; 50,000 francs would pay 2,689 francs; 1,000,000 francs would pay 5,688 francs, etc.

HEAD TAX.

This tax is one and one-half of the property tax now in force, which is 6 francs per mille; therefore the tax is 9 francs per annum for each male inhabitant having attained majority.

RENT TAX (PAYABLE BY THE LANDLORDS).

The tax introduced last year by the city authorities regarding the rent tax has been repealed by referendum lately, and a new law, in a modified form, is being framed.

FIRE DEPARTMENT TAX.

This tax is divided into twelve classes, and the taxes are levied on the net income derived from salaries, interests, rents, etc., to wit:

Class.	Total income.	Tax.
	Francs.	*Francs.*
1	1=1,000	2
2	1,001=1,500	2
3	1,501=2,000	4
4	2,001=2,500	6
5	2,501=3,000	8
6	3,001=3,500	10
7	3,501=4,000	12
8	4,001=5,000	20
9	5,001=6,000	30
10	6,001=7,000	40
11	7,001=8,000	50
12	8,001 *	60

*And more.

All able-bodied men at the age of from 20 to 34 years pay the entire tax as per above list; those from 35 to 50 years pay half of the respective amounts, and those above 50 years, as well as the active firemen, are exempt from this tax. Examples—A has no property, but an income of 800 francs; belonging to the first class, he pays 2 francs per annum. B has 7,000 francs worth of property, and in addition an income of 700 francs; the taxable portion is 4 per cent of the amount of property, equaling 280 francs, and the whole of the income 700 francs; he also belongs to the first class, and pays 2 francs. C is worth 15,000 francs and has an income of 1,800 francs; the taxable part is 4 per cent of 15,000 francs, equaling 600 francs, and the whole of his income, 1,800 francs, equaling 2,400 francs; he belongs to class 4, and pays 6 francs. D has 30,000 francs worth of property and 1,200 francs income; the taxable part is 4 per cent of the first 20,000 francs, equaling 800 francs; 6 per cent of the further 10,000 francs, equaling 600 francs; income, 1,200; total, 2,600 francs; he belongs to class 5, paying 8 francs, etc. The maximum tax is 60 francs, as per class 12, nobody paying more than this sum.

Rents, interest, etc., derived from property are calculated as follows: Four per cent of the first 20,000 francs, 6 per cent of the next 30,000 francs, 8 per cent of the next 50,000 francs, 10 per cent of all exceeding 50,000. This and the whole of the other income, such as salaries, etc., are the taxable amounts in the above list.

PAUPER TAX.

Every citizen pays a pauper tax to the authorities of the village or city of which he is a citizen, the tax being levied in proportion to meet the needs of such community for the purpose of supporting the poor. In the city of Zurich this tax amounts at present to one-half per mille; the mode of assessment is the same as for the municipal tax on property. For instance, 5,000 francs property pay 2.50 francs; 10,000 francs pay 5 francs, nothing being exempt. Then comes the tax on the income, which is 10 centimes of each 100 francs (1,000 francs of each income and also 200 francs for each child under 16 being exempt), and finally the head tax of 50 centimes. Example—A is worth 6,000 francs, and besides he earns 2,700 francs; he has 3 children; the tax on the income is calculated like the municipal tax, *i. e.*, exemption of 1,000 francs, and 600 francs for 3 children; total exemption, 1,600 francs; the rate of the first 1,000 francs (1,000 francs to 2,000 francs) is 10 centimes per 100 francs, the next 1,000 francs equaling 12½ centimes, etc., (always one-half of the municipal tax rate per hundred). A pays on his property 3 francs; on his income, on the first 400 francs (1,600 to 2,000) at 10 cents per hundred, 40 francs; on the next 700 francs (2,000 to 2,700), at 12½ per hundred, 90 francs; head tax, 50 francs; total pauper tax, 4.80 francs.

CHURCH TAX.

This tax has to be paid by all inhabitants for the support of the church of their faith, and an assessment is made by the authorities to cover the respective wants of the congregation or diocese to which the taxpayer belongs. For instance, in the Protestant St. Peter's church, the tax is 50 centimes per mille on his property, plus 50 centimes head tax, and a 50 centimes household tax. In the Catholic church it is one franc per thousand. In some dioceses no taxes are levied, for the reason that they are self-supporting, owning large funds and incomes which provide for all necessary expenses.

THE FIRE INSURANCE TAX.

This tax, as already stated, is not a regular tax, but a compulsory fire insurance imposed on house-owners. The rate is 60 centimes per 1,000 francs. For instance, 45,000 francs pay 27 francs, etc.

DOG TAX.

This tax is 24 francs ($4.63) per annum for every dog.

MILITARY TAX.

(Payable by Swiss citizens only, of the age from 20 to 45 years, who for some cause or other are exempt from military service). The tax is the same all over Switzerland. The federal law of June 28, 1878, reads as follows:

ARTICLE 3. The military tax consists of a personal or head tax of 6 francs ($1.158), and an additional tax in proportion to the amount of property and income. The annual military tax of a taxpayer can not, however, exceed 3,000 francs ($579) in any case.

ART. 4. The additional tax consists of 1.50 francs ($28\frac{95}{100}$ cents) per thousand francs on real property, and 1.50 per hundred francs on income. (Property under 1,000 francs ($193) and 600 francs ($115.8) of the income are exempt).

ART. 5. One-half of the property of the taxpayer's parents is also taxed proportionately to the number of children (provided the father himself pays no military tax).

ART. 6. Taxpayers from the ages of 32 to 45 years pay only one-half of this tax. Examples—A is not yet 32 years old, is worth 6,000 francs ($1,158), and has, in addition, an income of 1,500 francs. This man pays the entire tax, *i. e.*, 1.50 francs ($28\frac{95}{100}$ cents) per 1,000 on his 6,000 francs worth of property, 9 francs ($1.737); 1.50 francs per 100 on his taxable income of 900 francs ($173.7) 600 francs ($115.8) being exempt, 13.50 francs ($2.606); head tax, 6 francs; total, 28.50 francs ($5.500). B is also less than 32 years of age; he is worth 25,000 francs ($4,825) and has an income of 2,400 francs ($463.32), and as he is an only son, whose father pays no military tax, and who owns 40,000 francs ($7,720) worth of property, he pays the tax on half of this, *i. e.*, on 20,000 francs ($3,960), which is also 1.50 francs per thousand; he pays therefore 1.50 francs ($28\frac{95}{100}$ cents) per mille on 25,000 francs ($4,825) worth of property, 37.50 francs ($7.237); 1.50 francs per hundred on his 1,800 francs ($347.40) taxable income after deduction of 600 francs ($115.8) exemption, 27 francs ($5.211); a head tax, 6 francs ($1.158); 1.50 francs per thousand on 20,000 francs ($3,860), being one-half of his probable inheritance, 30 francs ($5.79). Total, 100.50 francs ($19.396).

EUGENE GERMAIN,
Consul.

ZURICH, *May 7, 1894.*

COKE MANUFACTURE IN GERMANY.

INTRODUCTORY REMARKS.

Coke is the fixed carbon and inorganic ash of bituminous coal, from which the volatile elements have been expelled by roasting in a close chamber, with or without exclusion of air. Coke of the highest quality is firm and columnar in structure, porous in texture, with a metallic resonance and bright, silver-gray color, and the theoretic coking process is that which will most cheaply secure the largest percentage of this product by not only conserving in the coke all the fixed carbon of the coal, but securing the deposit of part of the free carbon which is expelled in the form of hydro-carbonic gases during the process of dry distillation.

The progress of the past thirty years in the metallurgy of iron has established coke as the all but universal fuel for smelting ores in blast furnaces. The same period has witnessed the advance of the United States to the first position among the nations as a producer of pig-iron, the output of our country in 1892 being 9,157,000 tons against 6,616,000 tons for Great Britain, 4,793,000 tons in Germany, and 5,413,000 tons in all other countries. In view of this and the recognized preëminence of Americans in all that relates to the clever organization of industries and prompt adoption of improved methods, it would seem incredible, if it were not a fact patent and undeniable, that the United States are at least ten years behind western Europe in the scientific economy of coke manufacture.

Two causes are generally held responsible for this curious and costly conservatism—an abundance of cheap and excellent coking coals, and a timid, complacent fogyism on the part of certain leading iron-masters, partly the result of deference to English traditions, and partly due to superficial and too hastily abandoned experiments with the retort ovens which Belgium, France, and Germany have since developed to such admirable perfection. Ten or twelve years ago some trials were made with a primitive form of retort oven which consumed the gases evolved by coking, but whether from defects in the apparatus or want of skill in its management the results were disappointing, and the idea became fixed that retort oven coke was inferior for smelting purposes to that produced in the old-fashioned "beehive" oven, which still pours out, in clouds of wasted wealth, the smoke and gases that blacken and defile the coke districts of West Virginia and Pennsylvania.

England was for a long time equally conservative, and as late as 1882 Dr. Angus Smith wrote in his official report: "The present method of making coke in England has all the appearance of roughness and savagery, which wanton extravagance always produces."

Meanwhile Belgium, France, and Germany, with coking coals generally dearer and far inferior to those of Durham and Connellsville, were forced by the stern necessities of competition toward more frugal and progressive methods, and during the past twelve years they have developed the retort-oven processes to a degree of economic perfection which has revolutionized the whole theory and practice of coke making, and given to the iron and steel industries of these old countries an inestimable support against the steadily declining prices of the metal market. However well founded may have been the objections of furnacemen to retort oven coke a dozen years ago, those defects no longer exist; the coke made to-day in such ovens from Westphalian and Silesian coals is not only superior in yield but fully equal in quality to the best ever produced from the same materials by any other method, whether judged by the records of fuel practice in German furnaces or by the excellence of their products in iron and steel.

During 1892 there were produced in Germany, 6,843,330 tons of coke, exclusive of that derived from gas manufacture. Of this large output 4,360,984 tons, or 67 per cent, were manufactured in the Ruhr district of Westphalia, where the best coking coals of Germany are mined, and where are concentrated in a few square miles of territory, with Essen as its center, the most important iron and steel industries of the Empire. Of the total coke product of Westphalia during the year cited 3,064,817 tons, or 78 per cent, were consumed in blast furnaces. Its price in the market of that year averaged $2.61 per gross ton, equal to about $2.40 per net ton of 2,000 pounds. From the American standpoint this may seem a costly fuel, but it must be remembered that the best Westphalian coking coals lie from 500 to 1,200 feet below the surface, are limited in quantity, and when mined are so mixed with slate, pyrites, and other impurities that before coking they must be crushed and washed, whereby they lose from 12 to 20 per cent of their crude weight, and contain, when dumped into the coking oven, from 10 to 18 per cent of water. The question at once suggests itself: How can the German iron-masters, importing their ores largely from Spain, Morocco, and Scandinavia, hold their own in the prostrate metal markets of to-day? That they really do this is evident, not only from the current statistics of their industry, but from the steady, prosperous activity which prevails in Westphalia, where one may traverse the entire valley of the Ruhr and see scarcely a silent mill or an idle chimney. Not infrequently blast furnaces in the Ruhr district are not only flanked by a long row of coke ovens, but have also a coal mine on the same premises or in the immediate neighborhood, so that the item of fuel transportation is reduced to a minimum. This brings us to the question of what the Germans save, as compared with their American rivals, by their superior skill and economy in coke making.

On the first of the present month there were in operation in Westphalia alone 9,780 coking ovens, of which 6,599 belong to members of the coke syndicate; 387 are worked independently by mine owners outside of the syndicate, and 2,794 are owned and run in connection with iron-works. Of this whole number, 980 ovens have condensation plants for the recovery of by-products, 8,688 are of the Otto-Coppée type, without condensing apparatus, and 112 are old-fashioned "beehive" ovens, the product of which is largely exported to Japan and Australia. There are also at Krupp's works, in Essen, a few beehive ovens about twenty-five years old, but whether they are still in service could not be ascertained. Practically, therefore, the steel and iron of the Ruhr district are made with coke produced in retort ovens, which are of four different models, viz, the Carvès-Hüessner, the Semet-Solvay, and the Otto-Hoffmann, with condensing apparatus, and the Otto-Coppée without condensing plant. All these ovens are similar in general theory, though differing in certain details of construction, and all of them are superior to the most perfect beehive oven in respect to five fundamental points, viz: (1) Larger yield of coke from the same coal; (2) reduction of time required for coking; (3) reduced cost of attendance and labor, the ovens being discharged by machinery; (4) less cost of repairs and longer life of ovens; (5) saving of gas and the secondary products.

There are in the Westphalian coal basin 130 known veins of coal, 76 of which are workable. Of the workable veins, 18 yield coking coals of various grades, containing anywhere from 18 to 28 per cent of volatile matter, but none of these, not even the best, as will be shown later in this report, are equal to the average Connellsville or Pocahontas deposits, which furnish the standard coking coals of the United States. For the Ruhr coals, which are so low in volatile elements as not to justify the erection of condensing plants for the recovery of by-products, the form of retort-oven known as the Otto-Coppée model is generally used, and it is noticeable that whenever in Westphalia a blast furnace company makes its own coke only retort ovens are employed, and to this rule there is not a single exception.

There are now in operation in the Ruhr district 9,602 retort coking ovens, of which 978 have condensing plants for the recovery of by-products. The number of each type in the latter category is: Otto-Hoffmann, 776; Carvès-Hüessner, 100; Semet-Solvay, 48; System Herbetz, 48; System Brunck, 6; total, 978.

The Brunck ovens have not been successful, and as those of the Herbetz system belong to an old Coppée plant, to which a primitive condensing apparatus has been attached, they do not require separate consideration. The three systems first named are the only real competitors in the race, and they are hereinafter briefly described. In respect to general form, outward appearance, method of filling and discharging, as well as in the uniform excellence of the coke produced by all, they are quite similar; but they differ in size, method of heating, and especially in the construction of the heating-flues in their side-walls, which in the Hüessner and Solvay ovens are horizontal, while in the Otto ovens they are vertical. The Otto ovens are the largest, the Hüessner somewhat smaller, and the Solvay smallest of the three. In respect to heating, the two latter employ the recuperative principle for pre-heating the air for combustion with the cleansed gases of distillation, while the Otto-Hoffmann oven employs a Siemens regenerator for the same purpose, and heats the air to a much higher temperature.

I. THE CARVÈS-HÜESSNER SYSTEM.

The Carvès oven was invented in France, and was first used a number of years ago in the district of St. Etienne. There it was seen and studied by Mr. A. Hüessner, a German engineer, who obtained from the inventor rights and drawings, and introduced the oven into Germany with several improvements of his own, which, according to the record, were patented in this country under numbers 16,921 and 20,196. Mr. Hüessner constructed, at his own expense in 1881, at Bulmke, near Gelsenkirchen, 50 ovens, to which was added a second group of 50 more in 1884, and these have since been operated as a single plant with condensing apparatus for the recovery of tar and ammonia, and are the only ovens of that type that have yet been erected in Germany. Their size, as given in Lunge's treatise on coal distillation, is: Length (inside measurement) 29 feet 6 inches; mean width, 22½ inches; height, 5 feet 11 inches. Like all ovens of this class, they taper slightly in width from one end to the other to secure facility in discharging, which is effected by a steam ram, or pusher, armed with a shoe of nearly the same size and shape as a section of the oven, and which, when the coking operation is finished and the end doors opened, shoves the entire charge of glowing coke out upon a sloping platform of iron tiles, where it is sprayed with water to arrest combustion on exposure to the air. An oven is in this way emptied of its entire charge, 4 or 5 tons of coke, in less than half a minute, and refilled in twelve to fifteen minutes more.

Beneath the oven, and extending its entire length, is the combustion chamber, in which the gas is burned with air that has been heated to about 500° F., by passing through a lower flue warmed by off-heat from the spent flame which has made the circuit of the oven flues. The gas is introduced into the firing chamber by an annular double tube, like a Bunsen burner, the inner tube of which conveys the air, which is thus mingled with the gas at the moment of ignition. Here it bursts into flame, producing an intense heat, which rises through a perpendicular flue to the top of the oven and descends through the long alternating flues which are made of large tiles, built into the side-walls which form partitions between adjoining ovens. The end walls between each pair of ovens are strengthened by buttresses of masonry, which at the same time cover the ends of the horizontal flues. The ovens are charged from above with from 5.5 to 6 net tons of finely crushed coal. The charge is regulated to fill about 88 per cent of the interior space, while the remainder is left vacant for the free circulation of the gases evolved by roasting.

The oven thus filled, it is heated by the hearth and side-flues, and being already glowing from the previous charge, the coking process begins at once at the sides and bottom of the mass, gradually extending inward and upward until the volatile elements of the coal are thoroughly expelled. The gases are drawn off by the suction of an exhauster into large pipes which convey them to the condensing plant, where, after passing through a receiver, coolers, and scrubbers, and being thoroughly cleansed of tar and ammonia, they are returned to the ovens to be injected and burned with pre-heated air, as already described. The time required varies with the nature of the coal, from forty to forty-eight hours, and a ton of the high quality of coal which is coked at Bulmke produces about 8,500 cubic feet of gas. A special contrivance of Director Hüessner is a system of small pipes connecting.the main gas pipe with the ends of the upper horizonal flues, by which, when necessary, a small jet of live gas can be turned in to increase the heat at the outer or exposed end of an oven when it becomes too cool. The progress of the process is watched through a small peephole in the oven, and when the gases cease to evolve the connections are shut off, the doors swung open, and the oven discharged as already described.

The cost of the plant at Bulmke was, according to Lunge, who copied his figures from an official report of the company, $204,445 for the 100 ovens and condensing plant, buildings, etc., or $2,044 per oven. Director Hüessner now gives the following estimates for the construction of a similar plant, viz: Ovens, $833 each; condensing apparatus, $452 per oven; ammonia works, $119 per oven and piping; valves, etc., $261 per oven; total, $1,666 per oven, or $166,000 for an outfit of 100 ovens, not including cost of land, railroad connections, etc. The works at Bulmke are not connected with any coal mine or furnace, but are operated by a stock company under the management of Mr. Hüessner, who buys and uses the best Westphalian coking coals and sells his product to the neighboring iron and steel makers. The average yield is given by Mr. Hüessner as follows: Blast furnace coke, 72 per cent; crushed and small coke, 5 per cent; tar, 2.10 to 2.77 per cent; sulphate ammonia, 1.10 to 1.13 per cent. These results are somewhat higher than those stated by Mr. Austin Farrell, an American furnace engineer, who made last year a careful study of the plant at Bulmke and its records, and states in his unpublished report that during the period from October, 1892, until February, 1893, inclusive, the yield of the Hüessner ovens working on coal containing 29 per cent of volatile matter was: Furnace and crushed coke, 70 per cent; braise, 7 per cent; tar, 1.81 per cent; ammonia, 1 per cent.

This apparent discrepancy Director Hüessner explains by the statement that during several years he was greatly troubled by the irregular sinking and settling of the ground under his works, the result of underground mining operations, so that the walls cracked and joints and seams were opened in the oven flues, permitting the escape of oven gases into the flues, where they were consumed and lost, thereby reducing the percentages of recovered by-products. During the past eight months these sinkings of the ground have measureably ceased, with the result that his practice has improved and surpassed the previous record in tar and ammonia, thus reaching the percentages which are above given. Evidences of the sinking ground are to be seen all about the place; huge cracks appear in the foundation wall, and one entire wall of the ammonia building has fallen out and has been replaced by a wooden partition.

The labor required in operation employs in all 67 men in two ten-hour shifts—57 men at the ovens, 5 at the gas-cooling plant, and 5 in the ammonia building, and the net cost of labor is stated to be 1.50 marks or 33.8 cents per ton. The coke made by the Hüessner ovens at Bulmke is of excellent quality, firm, porous, resonant, and of a standard color except where it is outwardly blackened, as all retort coke invariably is, by being sprayed with water on coming from the oven.

2. THE SEMET-SOLVAY SYSTEM.

The Semet-Solvay coking oven is of Belgian origin, the first six of that type having been erected at Mons in 1882, and it is the standard model used in that country in combination with condensing apparatus for the recovery of by-products. The central office of the Solvay Company is at Brussels, and it has built and put in operation 492 ovens since 1885. Of these 327 are located in Belgium, 50 in France, 55 in England, 12 at Syracuse, New York, (Solvay Soda Process Company), and 48 ovens at the Phoenix Steel Works in Laar, near Ruhrort, Germany, which last have been in operation since April, 1891.

The dimensions of the Semet-Solvay ovens at Laar are: Length, 30 feet; height, 5 feet 10 inches; mean width, 17 inches. They are thus considerably narrower than either the Hüssener or Otto ovens, and take in fact only from 4 to 4.5 tons of coal at a charge, but they work at a very high temperature, and the operation is usually completed within twenty-four hours. The records show that the 24 ovens at Laar coke 3,285 tons of coal per month, and 39,420 tons during an uninterrupted year's run.

The distinctive feature of the Solvay ovens is the construction of the heating flues and the side-walls which separate the ovens. Like those of the Hüessner type, the heating flues are three in number and horizontal, extending the entire length of the oven, and so provided with openings from one to the other that the descending current of burning gas traverses the entire length of all the flues, a distance of about 90 feet. But unlike all the others, the Solvay flues are made of consecutive joints of large, hollow tiles, closely matched and set in heavy fire-brick walls, 16 to 20 inches thick, in such manner that only one side of the tile is exposed and forms part of the heating surface of the oven, the top, bottom, and back of the tile being covered by the masonry. The side of the tile through which the heat passes is 2.8 inches thick, and the construction of the buttresses between the ovens gives the whole plant great solidity, resists the side pressure exerted by the swelling coal and by the ram in discharging, and enables the ovens to be worked at a high temperature and rapid pace. The operations of charging and discharging are precisely similar to those employed with the Hüessner and Otto ovens. They are kept in constant service day and night throughout the year, and when working with quick coal are said to average slightly more than one charge per oven each twenty-four hours.

The gases of distillation are drawn off to the condensation plant, where they are cooled, washed, and deprived of their tar and ammonia, and are then conducted back to the ovens, where they are introduced by pipes and tuyères from the main conduit into the ends of the upper and middle horizontal flues respectively. This supply of gas at both ends of the oven secures an equal distribution of heat throughout its length. At each point of injection the in-rushing gas meets and is mixed with a supply of air coming up through a feed-pipe from a heating chamber beneath the hearth of the oven, where it has been warmed in passing to a temperature of 360° F. to 500° F. Thence the flame passes downward, traversing successively the alternating horizontal flues, and emerging into a large canal or reservoir at the bottom, whence the heat is drawn off and used for heating boilers or other purposes. The pressure of gas in the tuyères is regulated by an ingenious automatic governor, which thus equalizes the supply, so that the heat in the flues is kept uniform and constant. The generators in which the air is warmed have a heating surface of from 6 to 10 square meters for each oven, and the saving of surplus gas from coal containing 17 per cent of volatile matter, is about 25 per cent of the whole amount generated by the coking process. This surplus gas is stable, and can be used either as fuel or for illuminating purposes.

The cost of constructing Solvay ovens in Belgium, where both labor and materials are cheaper than in Germany, is about $1,160 for each oven with all necessary fixtures, and $675 per oven for the condensing plant—in round figures $2,000 per oven for the entire outfit for coking and saving tar, ammonia, and fuel gas. The labor is substantially the same during the operation as that required by the retort ovens of other types. For the best results the Solvay ovens require a uniform and carefully sustained quality of coal, and for this reason there is provided at Laar an apparatus for mixing two or more kinds of lean and fat coals in such manner that the resulting mixture shall contain from 20 to 25 per cent of volatile matter. This mixing process, in addition to transportation from the mines where it is crushed and washed, reduces the free water in the coal used there to 7 or 8 per cent, while much of the coal coked by other ovens in connection with Westphalian mines, contains from 15 to 20 per cent of water.

In respect to rapidity of working and good quality of coke produced, the Semet-Solvay ovens have a well established reputation, but owing to the very high temperature at which they are worked, and the rapidity of their action, their saving of by-products falls below that of the other types which are described in this report. The report of Mr. Farrell, the American furnace engineer already alluded to, who spent three months in Europe last year investigating the different coking systems, and who had access to the records of all leading oven builders, gives the following comparison of results in by-products, as accomplished by ovens of the different models working on similar grades of Westphalian coal.

Names.	Period.	Tar.	Sulphate of ammonia.
		Per cent.	*Per cent.*
Semet-Solvay	Oct. 1892 to March 1893.	1.6	0.61
Carvès Hüessner	Oct. 1892 to Feb. 1893	1.81	1
Otto-Hoffmann	Oct. 1892 to March 1893.	3.53	1.18

In Belgium the Solvay ovens work successfully on coals as low as 15 and 17 per cent in volatile matter, and the two plants at Brymbo and Northwick in England have achieved satisfactory results.

3. THE OTTO-HOFFMANN SYSTEM.

By far the most important and widely distributed kind of retort-coke ovens in Germany is that of Dr. C. Otto & Company, whose central office is at Dahlhausen, on the Ruhr. This company builds retort ovens of two types, (1) the Otto-Coppée model, which saves as fuel the gases of distillation and is used on account of meager volatile elements in the coal, or for other reasons the recovery of by-products is not attempted; (2) the Otto-Hoffmann oven, with condensing apparatus, which by common consent, constitutes the most advanced and perfect equipment of its kind now in use in this country.

The first ovens of the Otto-Hoffmann model were built in 1881, and there are now at work in Germany and Austria 1,855 ovens of that type, to which various improvements have been successfully added, and 6,309 ovens of the Otto-Coppée class without condensing apparatus, in all 8,164 retort ovens—far more in number than have been built by all other constructors in all countries combined. Of the 978 retort ovens of all models with condensing plants now at work in Westphalia, 776 are of the Otto-Hoffmann type; the remaining 202 include the 100 Hüessner ovens at Bulmke, and the 48 Solvay ovens at Laar, above described. The remaining Otto ovens of both classes, which complete the grand total, are distributed through the Saarbrück region, Upper and Lower Silesia, and the neighboring coal district of Austria.

The standard Otto-Hoffmann oven for Westphalian coal is 32 feet and 8 inches long, 5 feet 7 inches high, 21.5 inches wide at the narrow, and 25 inches at the other end to facilitate discharging. It is therefore the largest of the three models, and takes at a charge from 6.5 to 7 net tons of coal, which is delivered, perfectly coked, in from thirty-two to forty-eight hours, according to the nature of the coal. The ovens are built for convenience and economy of management in batteries of 60, divided into 2 sections of

30 ovens each. These sections are separated by an open-roofed space, where the various pipes and conduits which connect the ovens with each other and with the condensing plant are brought together under the control of the valve-tender. The ovens are heated by a portion of the gas evolved by the coking process after it has been purified of tar and ammonia, and the process is concisely as follows: The oven being filled and the heat turned on distillation begins at once, and the gases, mingled with vapor and some coal dust, rise and are drawn by an aspirator through large pipes to the reservoir, where they are cooled and deprived of the heavier portion of the tar. Thence the gas goes to the receiver, and so on through the condensers, where it is cooled and washed clean of tar and ammonia, and is then returned through a main pipe which has feed-cocks leading into the hearth-flues, one of which underlies each oven. This is the combustion chamber, where the gas on entering meets about ten times its volume of air, which has been pre-heated in a Siemens regenerator to about 1,800° F., and immediately develops a heat of from 2,300° F. to 2,800° F. The flame then passes along the combustion chamber up through the vertical side-flues in one-half of the oven, thence along the top and down the vertical flues on the other side into the second regenerator, where it gives up most of its remaining heat, passing afterwards under a couple of steam boilers, and finally out through valved openings into the chimney with a temperature reduced to 500° F., or 600° F. There are two regenerators—long chambers of masonry filled with fire-brick, lattice, or checkerwork—which take up and save the heat of the spent flame, and afterwards return it to the air for combustion with the gas. These regenerators are in the brick foundation, and extend along the entire length of the ovens on either side, and the arrangement is such that when one regenerator has become cooled by the inrushing current of air to about 1,300° F., the other has been raised by the off-heat of the spent gas flame to 1,800° F., or 2,000° F. A valve in the main feed-pipe is then turned, which reverses the currents of gas and air through the entire apparatus, so that the off-heat is turned into the cooled regenerator and the air comes through the hottest one to the firing chambers. By thus reversing the currents at intervals of an hour, the off-heat is utilized to the utmost degree, an intense and perfectly governable heat is generated and maintained in the coking ovens, and from 30 to 40 per cent of the gas generated in coking is saved as surplus for heating or illumination. It has been demonstrated that a battery of 60 Otto ovens, coking 102,500 net tons of coal per year, will save an amount of gas equal in fuel value to 11,750 net tons of coal.

In ovens of the Otto-Coppée type the gases of distillation are drawn by chimney draft directly from the top of the coking chamber into the vertical side-flues, where they meet the air necessary for their combustion. The products of combustion then descend the side-flues into the hearth or base flue, and thence pass into a large collection canal which carries them to the boilers, where the remaining heat is sufficient to evaporate from 1.1 to 1.7 pounds of water for each pound of coal coked.

Another feature of the Otto-Hoffmann system is that by proper regulation a slight pressure is maintained in the heating flues instead of a partial vacuum, as occurs in the long horizontal flues of the Hüessner and Solvay ovens. As a result of this, any incidental crack or fault in the side-walls of the Otto oven would not entail an escape of retort gas into the flues (as happens in case of such accident to either of the other types), and this has an important effect on the comparative savings of by-products, since the retort gas which escapes by leakage into the flues is burned and lost. The labor for a battery of 60 Otto ovens with a by-product saving plant requires two daily shifts of 47 men each, viz., 29 men and 2 foremen at the ovens, and 14 men with 2 superintendents in the condensing department. The total pay roll for labor and superintendence amounts to 28.8 cents per ton of coke produced. At the beehive ovens in America, where no by-products are saved, the cost of labor for coking alone varies from 32 to 35 cents per ton.

The average yield of the two Otto-Hoffmann plants of 60 ovens each in Westphalia, the records of which for 1893 have been personally examined for the preparation of this report, was as follows:

Description.	Julia mine.	Recklinghausen II.
Number of ovens drawn	880	849
Charge per oven, dry	6.45 net tons.	6.78 net tons.
Average coking time	49.78 hours.	49.94 hours.
Percentage of coke	78	74.47
Percentage of tar	3	3.70
Percentage of sulphate ammonia	1.15	1.28

The cost of construction in Germany for Otto ovens is $1,168 each, and $1,636 per oven for the condensing plant; and it is to be remarked that throughout the latter everything, from the engine to the smallest pipe or pump, is in duplicate, so adjusted that in case of accident or failure of any kind the duplicate fixture can be turned into service and the work continued without a moment's delay. This practice of duplicating the entire condensation apparatus adds largely of course to the cost of the outfit, but it not only provides against accident but enables everything to be kept clean and in perfect order, and long experience has taught the Otto company that such extra cost is amply justified and repaid. Nothing is more striking than the quiet and cleanliness which prevail about these establishments. Nothing is wasted; scarcely a fleck of smoke escapes from the ovens or rises from the tall chimney. The air is clear and undefiled with soot, and luxuriant crops of grain and vegetables grow up to the very walls of furnaces and coking plants in this country, where every morsel of food is needed, and where waste is considered a crime.

HEATING FLUES.

Aside from the different methods of heating employed by the three foregoing types of ovens, the point most disputed in their construction is that of the heating flues, through which the burning gas is passed to heat the coking chambers. In the Hüessner and Solvay ovens, as has been seen, these flues are horizontal, and are made of large tiles set in the side-walls which form partitions between the ovens. In the Otto ovens these flues are vertical, and are built of fire-brick of ordinary size. Each constructor claims that his plan is the best, but the weight of testimony seems to show that the vertical flues are cheaper to construct, stronger in resisting side-pressure from the coal or ram, and more easily repaired when worn or accidentally injured. From all accounts, the Otto ovens have shown great durability under constant service at high temperatures abruptly checked by successive charges of wet coal. There are numerous plants of this model in Westphalia, which have been working constantly for twelve years or more with only nominal repairs, and are still in good condition. At the Germania II mine, near Dortmund, where 60 Otto-Hoffmann ovens have been at work for more than eight years, there occurred last year a miners' strike which cut off temporarily the supply of coal, so that it became necessary to shut down 30 of the ovens, and advantage was taken of the chance thus offered to look over and repair them. This, after an unbroken run of eight years, was done at a cost of $470 for labor and materials—an average of $15.90 per oven, or less than $2 per oven per year. The one fact that makes this instance noteworthy is that this plant stood on ground that had settled 5½ feet during the eight years, by reason of mining underneath; but notwithstanding this, the condition of the ovens had remained so intact that the yield of both by-products had steadily increased.

It is unfortunate for the purposes of this comparison that the Hüessner and Semet-Solvay coking ovens are each represented in Germany by only a single plant, which, whatever their individual merits, play but a minor role in the presence of the numerous and admirably appointed establishments of the Otto Company. The overwhelming preponderance of the Otto ovens in this country is due to two causes—first, the settled conviction of a large majority of German coal and iron men that they are the most effective and durable ovens ever devised for working German coals, and secondly, to the consummate skill and enterprise with which the business of the Otto company has been managed. Dr. Otto began his career in this field almost without financial resources, and in face of the then prevailing prejudice against retort oven coke. Not finding a furnace-master or mine-owner willing to risk the cost of an experimental plant, he secured the requisite capital and built at his own expense, in 1881, 10 ovens at the Holland mine and 40 more at the Pluto mine in 1883. These were built by an agreement with the mine-owners that they should furnish the coal and receive in return all the coke, Dr. Otto retaining for his outlay and labor simply the tar and ammonia which he might recover from the gases of distillation. This plan proved so profitable for all parties concerned that it has been substantially continued to this day, and the finely equipped coking and condensing plants of the present Otto Company are still built in Germany under contracts in effect as follows: The company having ascertained by analysis that the coal of a certain mine is sufficient in quantity and rich enough in tar and ammonia to justify the venture, contracts are made to erect at its own cost and run for a term of years a specified number of ovens with condensing equipment, the mine-owner to supply the coal and the small amount of steam required by the engine of the by-product apparatus and pay for the labor of the coke ovens. In return the mine-owner receives all the coke and the off-heat which remains as surplus from the regenerators; the Otto Company pays all initial cost of construction, as well as superintendence and labor in the condensing department, repairs, etc., and receives as its share the tar and ammonia that are recovered. At the end of twelve years the whole establishment is by contract turned over as a free gift to the mine-owner. The vital fact that proves more than volumes of discussion is that this plan, which was begun twelve years ago is still continued, and the company is erecting this year nearly 300 new ovens, involving, with all appurtenances, an outlay of more than $800,000. It is understood that in more than one instance the by-products recovered by the Otto system have paid for the entire coking and condensing plant within three years, leaving to the constructing company a nine years' free run for net profit.

GERMAN RETORT OVENS FOR THE UNITED STATES.

A year ago this question might have involved some reasonable doubt, but such uncertainty has now been dispelled by actual demonstration. During the summer of 1893, 18 tons of Connellsville coal were brought to Germany and coked, in the presence of an experienced American furnace manager, by the Otto-Hoffmann ovens at Recklinghausen in Westphalia. The results, which have been published in many technical journals in the United States, exceeded all expectations, and may be briefly summarized. The coal was mined at the Valley mine, near Scottsdale, Pa., shipped to Germany, and showed under crucible test: Moisture, 1.59 per cent; volatile matter, 29.18 per cent; fixed carbon 58.84 per cent; ash, 9.40 per cent; sulphur, 0.99 per cent. The theoretic yield of coke from such coal would be 68.74 per cent. After preliminary tests with small quantities, two ovens were charged with 7 net tons each of the coal, and finished the process of coking in twenty-eight and thirty-two hours respectively. The yield was: Blast-furnace coke, 71.19 per cent; small coke and braise, 2.5 per cent; total coke, 73.6 per cent. The report of the American expert declared it to be of "most excellent quality, very hard, with metallic ring and silvery luster—impossible to distinguish from the original Connellsville beehive coke made from the same seam of coal."

A sample of this coke was exhibited at the Westphalian Mining Exposition at Gelsenkirchen and attracted general admiration, being pronounced by the German furnacemen distinctly superior to the best coke made here from native coals. Another sample was sent to the United States and the remainder of the lot left to the mine-owner at Recklinghausen, who discreetly concealed it by mixing through a number of car-loads so as not to demoralize his customers by a noticeable improvement in quality, which he could not afterwards maintain. Standard authorities give the charge of an ordinary beehive oven in the Connellsville district at 3.8 tons, the time required for coking at 48 hours, and the average yield 58 to 60 per cent of furnace coke. Comparing these figures with the experiment at Recklinghausen, it will be seen that with the same Connellsville coal an Otto-Hoffmann oven effects a saving of sixteen hours in time, yields from 11 to 12 per cent more coke from every hundred units of coal, and saves a large percentage in the cost of labor, to say nothing of the recovery of secondary products, which the beehive oven wastes altogether.

How promising a field Pennsylvania and West Virginia may open for the best class of retort ovens will appear from the following comparison, in which are included the results of a second test of 30 tons of other American coal in April of this year at the same ovens in Recklinghausen:

Coal.	Coke and braise.	Tar.	Ammonia.	Gas per ton.
	Per cent.	*Per cent.*	*Per cent.*	*Cubic feet.*
Connellsville	73.6	4	1.07	9,321
Pocahontas	84.8	1.7	0.716	9,131
Westphalian	76	3	1.15	8,744
Silesian	67	4.2	1.12	10,057

But not all American coals are of such high quality for coking purposes as the Connellsville and Pocahontas. What will be needed is a retort-oven system that will make furnace coke of the coals of Ohio, Alabama, and Illinois. Nothing is certain in industrial science until it has been actually accomplished, but a coking system which has been worked successfully for years on the varied and often inferior coals of the Laar, Silesia, and Austria, where the proportion of volatile matter varies from 17 to 42 per cent, may be trusted to achieve at least equal success in the United States.

It remains to be said that German iron-masters prefer retort-oven coke to that made by any other method, and years of experience have proven that such ovens, working side by side on the same coals, with and without condensing apparatus, make precisely the same quality of coke. Saving the by-products does not affect in the slightest degree the quality of the coke.

That German coke is good, notwithstanding the large proportion of inferior coal that is coked in this country, will be shown by the following notes of blast-furnace practice at some well-known works in Westphalia and Silesia:

Works.	Product.	Ore mixture.	Coke consumed.	Iron produced.
		Per cent.	*Pounds.*	*Pounds.*
Hoerde Iron Works	Thomas pig	44	2,000	2,260
Heinrich's Furnace	Puddle iron	43	2,000	2,000
Schalker Furnace Company	Bessemer iron	47	1,980	2,000
Phœnix Company, Laar	Do	52	1,900	2,000
Sophie Furnace, Silesia	Mill and foundry iron	50	1,980	2,000

MARKET FOR BY-PRODUCTS IN THE UNITED STATES.

As to the future American market for the secondary products of coke manufacture, there would seem to be no reasonable question. Coke-oven tar is superior for nearly all purposes to gas tar, and it is well known that the demand for coal tar in the United States far exceeds the present supply. Its average price in Germany during the past three years has been $8 per ton, while it was $12 per ton in the United States in 1892, during which year there was imported 117,056 tons against 89,313 tons imported during the preceding year.

Ammonia may be derived from coal by the retort-coking process in several marketable forms, such as chlorides, nitrates, carbonate or concentrated aqua ammonia (15 per cent), all of which have high values, but as the demand for them is limited the principal product is sulphate of ammonia, for which there is a large and growing demand as a fertilizer of great value for worn soils. For this purpose it replaces Chile saltpeter, which our country imports to the amount of from $2,000,000 to $3,000,000 per annum. The average price of sulphate of ammonia in the American market in 1893 was $63.20 per ton, and the imports of the three preceding years aggregated 15,000 tons, all of which and far more will be saved when the ammonia of the wasted gases of American coke manufacture are recovered by more economical methods. But the greatest gain will be to the iron and steel industries, which, under the present conditions of competition, can no longer afford to ignore the scientific economies of coke production, which other nations have perfected and found so practicable and lucrative.

FRANK H. MASON,
Consul-General.

FRANKFORT, *July 28, 1884.*

ALIEN LAW OF HAITI.

Vice-Consul-General Terres, in a dispatch dated August 1, 1894, from Port-au-Prince, informs the Department of the revival of the Haitien law of 1864, concerning passports to persons arriving in or departing from Haiti. The following is a translation of this law and of a circular of the Haitien Secretary of the Interior putting it again into force:

THE LAW.

ARTICLE 1. When a vessel, coming from a foreign port, enters one of the open ports of the Republic, the captain and all the passengers shall be obliged, on coming ashore, to go direct to the Bureau of the Port. The officer commandant of the port, or one of his adjoints, shall conduct them without delay to the Bureau of the Place.

ART. 2. The Commandant of the Place shall receive the declaration of the arrival of each passenger, verify his passport or papers certifying to his identity, and he shall take, in regard to those who do not produce any or who produce such as are insufficient or irregular, the measures of security prescribed in article 3.

ART. 3. The declaration of each passenger shall contain: (1) his name, first name, profession, and residence; (2) the date of his arrival; (3) his nationality; (4) the mention whether or not his intention is to reside in the country, or is only passing through on a voyage.

ART. 4. These declarations shall be inscribed by the number of the order in a special register kept for that purpose at each Bureau of the Place. Every week an extract from this register, if there is cause, shall be transmitted by the Commandant of the Place to the Commandant of the Arrondissement, who in his turn shall transmit a duplicate to the Secretary of State of the Interior, with such observations as he shall judge necessary.

ART. 5. There shall then be issued by the Commandant of the Place to each passenger, after his declaration and the verification of his passport or of his papers, a certificate on a $4 stamp paper certifying to the fulfillment of the said formalities.

ART. 6. Any captain who, on his arrival at a port, shall land a passenger without conducting him to the Bureau of the Port, and any passenger who on his arrival shall not satisfy the prescriptions of articles 1, 2, and 3 of the present law, shall be liable to a fine of $500 or $1,000 for each person not declared. Any inhabitant of the country who shall receive at his house one or several passengers convinced that they are not bearers of the certificate prescribed in article 5, shall also be liable to a fine of $500 for each passenger found in his lodging not furnished with the above-mentioned certificate.

ART. 7. All persons who leave a foreign port to go to Haiti shall be obliged, if there exists a Haitien consulate at that foreign port, to have viséed or have delivered to him a passport by the Haitien consular agent under the penalty of being liable on his arrival to a fine of $300.

ART. 8. Each consular agent shall receive for each visé 50 cents, and for each passport $1.

ART. 9. All persons who wish to leave the territory of the Republic to go to a foreign country shall, in the three days preceding his departure, make the declaration to the Commandant of the Place, and procure either from the Secretary of State of the Interior, or from the Bureau of Arrondissement in the cities other than the capital, a passport in the form at present in use, and on stamped paper. Passports for foreign countries shall only be delivered on exhibition of a certificate certifying that the declaration of the departure has been made. All violations of the provisions of the present article shall be punished by a fine of $300. Nevertheless the competent authority may, should circumstances require it, reduce to one day the time prescribed to a foreigner to make the above declaration.

ART. 10. The declarations of departure shall be inscribed on a special register kept for that purpose at each Bureau of the Place. They shall contain: (1) the name, first name, profession, and residence of the declarer; (2) his nationality; (3) the country to which he is going.

ART. 11. Any captain of a Haitien or foreign vessel, who in leaving one of the ports of the Republic shall receive on board as passenger or crew, when they are really not so, one or several persons, either Haitiens or foreigners, without passport, shall be liable to a fine of $300 for each person.

ART. 12. Any passenger who, on his arrival, shall not furnish a passport or paper certifying his identity, or who refuses to obey any of the prescriptions of the above articles 1 and 2, shall be obliged to reëmbark immediately, or remain under the surveillance of the police until he can reëmbark, unless he has to answer for him either a resident citizen or a licensed foreigner.

ART. 13. All the fines in the cases foreseen by the present law shall be pronounced at the diligence of the Public Minister, without delay, by the Correctional Court of the district where the infraction shall have been committed, or by the Court of the Commune, each in the limits of its attributes. The chiefs of the movements of the ports, the Commandants of Arrondissements and of Places, and all public functionaries are bound to give notice to the Public Minister of all infractions committed against the provisions of the present law, whenever they shall come to their knowledge.

ART. 14. Are exempt from the declaration of arrival or of departure, above prescribed: Diplomatic and consular agents of foreign powers, as well as the persons belonging to their suites, and the captains and persons belonging to the crew of foreign vessels. It shall be the same in regard to Haitien diplomatic or consular agents returning to the country.

ART. 15. All the formalities prescribed by the present law are indispensable; nevertheless, the cases of error or simple negligence in their fulfillment are left to the discretion of the Secretary of State of the Interior charged with the general police.

ART. 16. The present law abrogates the law of August, 1829, as well as all provisions of the law anterior that are contrary thereto.

ART. 17. The Secretaries of State of the Interior, of Agriculture, and of the General Police, those of Finance and Commerce and of Foreign Relations, and those of Justice are charged each in that which concerns him with the execution of the present law.

Given at the National House at Port-au-Prince September 13, 1864, the 91st year of the independence.

CIRCULAR OF THE SECRETARY OF THE INTERIOR.

[Translation.]

PORT-AU-PRINCE, *July 7, 1894.*
91st year of the independence.

The Secretary of State of the Department of the Interior to the Commandants of the Arrondissements of the Republic:

I draw your serious attention to the provisions of the law of the 26th of September, 1864, on the police relative to persons arriving from foreign ports or departing on sea voyages, which is reproduced in the Moniteur of this day, that you will receive by post, and particularly of articles 2, 3, and 9 thus expressed.

ARTICLE 2. The Commandant of the Place shall receive the declaration of the arrival of each passenger, verify his passport or the papers certifying his identity; and he shall take in regard to those who do not produce any, or who produce such as are insufficient or irregular, the measures of security which shall be prescribed in article 3.

ART. 3. The declarations of each passenger shall contain: (1) his name, first name, profession, and residence; (2) the date of his arrival; (3) his nationality; (4) and the mention of his intention whether or not to reside in the country, or is only passing through on a voyage.

ART. 9. All persons who wish to leave the territory of the Republic to go to a foreign country shall, in the three days preceding his departure, make the declaration to the Commandant of the Place and procure either from the Secretary of State of the Interior or from the Bureau of the Arrondissement in the cities other than the capital a passport in the form at present in use, and on stamped paper.

Passports for foreign countries shall be delivered only on exhibition of a certificate certifying that the declaration of the departure has been made.

All violations of the provisions of the present article shall be punished by a fine of $300.

F. DUCASSE.

PROPOSED RAILWAY IN BRITISH HONDURAS.

Referring to my recent report on the proposed railway in this colony, I have the honor to state:

(1) There exists no arrangement at this time between this colony and Mr. R. W. Starkey* who had charge of the survey.

(2) The only step the government of this colony is taking is that they have reserved an area of land along the line of the Sibun Valley, for the

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*See CONSULAR REPORTS No. 152, page 109.

purpose of aiding a railway, and the governor, when at Stann Creek, advocated the construction of a line from that town toward the highlands, and had one or two routes laid down on paper. The British Honduras syndicate, of Stann Creek, have at present a proposal before the government to continue their tram line (a light plantation railroad, operated by mules and running from Stann Creek to their plantation at Melinda, a distance of about 6 miles), in the direction spoken of by the governor; they also propose to widen the gauge to 3 feet and to use steam power, but this scheme is at present only on paper.

(3) The result of the Starkey survey only showed that, following the direction taken, great obstacles were met in the way of precipices, etc. No map has as yet been published showing the country traversed, and the only map in this colony is a rough copy of the map of British Honduras, on which is shown approximately the routes followed. This map, if a copy could be obtained, would be valueless, as it does not pretend to be more than an approximate tracing of the route, and, as shown above, that route is impracticable save at a very great cost.

(4) All claims for a prior right, etc., to construct the line have ceased to exist.

(5) This colony has never received any map or even field books showing the route of the Starkey survey, with the exception of the rough map already mentioned and a plan and section of the first 20 miles, *i. e.*, from Belize to Hector Creek. If any such plans exist they must be at present with the crown agents of the colonies in London.

(6) The only proposition has been a grant of land in alternate blocks for every mile of line built, along with a bonus of £60,000 sterling.

I am of the opinion that this Government would be prepared to consider a scheme for the construction of a railroad if satisfactory proof be given of the financial standing of the party making the proposition, and that the route proposed was practicable.

With regard to the Regan survey, I believe that the field notes, etc., are in the hands of the American Construction Company, of New York, who were the parties who sent Mr. Regan here. If this company no longer exists, reliable information might, I think, be obtained from the secretary of the institute of civil engineers of America.

Some time in 1891 a gazette was published here giving all the correspondence on the subject. I have tried to secure a copy of this but have failed. I submit herewith a copy of the form of tender attached to the contract which the crown agents for the colonies prepared:

FORM OF TENDER.

To the Crown Agents for the Colonies:

GENTLEMEN: —— hereby tender to construct, equip, maintain, and work the railway, pier, and works described in the form of contract hereto annexed, and to introduce into the colony immigrants in accordance with all the provisions and stipulations of such contract, and subject to the conditions and covenants by the contractors therein mentioned.

And —— undertake in the event of this tender being accepted to execute, when called upon by you to do so, the annexed contract providing for the due construction, equipment, maintenance, and working of the said railway, pier, and works, and for the introduction into the colony of immigrants.

In the event of any of the conditions upon which you accept this tender not being complied with, or in the event of failing to execute and return to you so executed the contract within seven days after the same shall have been left by you for execution by ——, at the address given below ——, hereby empower you on the happening of any such event to rescind the acceptance of this tender.

On the execution of the formal contract, this tender is to be deemed absolutely superseded and annulled for all purposes.

Dated this —— day of ——, 1888.

[Signature] —— ——,

[Address] —— ——.

NOTE.—The crown agents for the colonies do not bind themselves to accept the lowest or any tender.

JAMES LEITCH,
Consul.

BELIZE, *September 6, 1894.*

ARGENTINE-ITALIAN CONVENTION.

I have the honor to inform the Department that a convention was signed between the representatives of the Argentine Republic and Italy, on June 1st last, on the "most favored nation" basis. This convention was submitted to the Argentine Senate on the 19th instant, and approved by them on the same day.

I inclose a copy of the "Boletin Oficial" containing the text, together with a translation taken from yesterday's edition of the "Times of Argentina."

WILLIAM I. BUCHANAN,
Minister.

BUENOS AYRES, *July 21, 1894.*

THE CONVENTION.

[Inclosure in Minister Buchanan's report.]

ARTICLE 1. The convention is hereby approved on the most favored nation basis, signed on the 1st of June, 1894, by the plenipotentiaries of the Argentine Republic and the Kingdom of Italy.

ART. 2. Let this be communicated to the Executive Power, His Excellency the President of the Argentine Republic, and His Majesty the King of Italy, with the desire of arranging a convention on the most favored nation basis, have appointed the following as their plenipotentiaries: His Excellency the President of the Republic, his Minister for Foreign Affairs, Dr. Eduardo Costa, His Majesty the King of Italy, His Envoy Extraordinary and Minister Plenipotentiary, Duke José Anfora de Lucignano, comendador of the Order of Saint Maurice, etc. These have agreed to the following:

ARTICLE 1. Argentine citizens, products, and vessels in Italy, and Italian citizens, products, and vessels in Argentina, shall be accorded without any restriction, the treatment of the most favored nation, and shall consequently be admitted to every favor, privilege or immunity that in the Argentine Republic or Italy is accorded to the citizens, products, or vessels of any other nation.

ART. 2. The present convention shall be ratified by the high contracting parties, and the ratifications shall be exchanged in Buenos Ayres as shortly as possible afterwards.

This convention shall be in force for one year after any of the contracting parties shall have given notice to the other that it desires to desist from the terms originally agreed on.

LUMBER TRADE OF THE STRAITS SETTLEMENTS.*

In the dense jungles that still cover a vast portion of the Malay Peninsula and the adjacent islands, there exist many rare and valuable forest trees indigenous and peculiar to this region. Of these I shall proceed to enumerate and briefly describe the nine best known lumber-yielding varieties.

Seriah (*hopea*).—This is a tall, handsome tree, with wood of a light-red color, resembling coarse cedar in grain, much used in house-building for joinery work, but not suitable for beams and joists.

Mercanti.—An inferior variety of the preceding.

Jelutong (*dyera costulate*).—This is a large tree with soft, white wood, used for models, cases, and work where strength and durability are not essential.

Darrou (*sideroxylon sundaicum*).—A heavy, close-grained wood, resinous and aromatic, which, though well adapted to carpenters' work, does not resist exposure to the weather sufficiently well to admit of being used to advantage in external constructions.

Balan (*not scientifically determined*).—A fine, large forest tree, 60 to 100 feet in height, and 3 to 6 feet in diameter, with hard, heavy, close-grained, tenacious wood of a light-brown color, much used for joists and beams, and for all purposes where strength and durability are required.

Tampinis (*sloetia sideroxylon*).—A close-grained wood of rich, brown color, susceptible of a high polish, and closely resembling mahogany; most highly prized for joinery and building purposes on account both of its great durability and of the fact that it is not affected, as are other woods, by the ravages of the white ant, so destructive to timber in these latitudes.

Karangie (*dialum indicum*).—A tall, handsome tree, often found growing to a height of 60 feet, with a diameter of 4 feet. Its wood is hard, dark colored, durable, and often finely grained. It is used for furniture, and, to a certain extent, for building purposes.

Damarlant (*canarium species*).—One of the great Malayan forest trees, especially plentiful in the neighborhood of Penang, where it is much used for house-building. Its wood is light colored, close grained, and lustrous, and is admirably suited for beams and joists on account of its great transverse strength and stiffness.

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* Received too late for publication in the Special Consular Reports entitled, "American Lumber in Foreign Markets."

Mirabou (*afzelia palembanica*).—A large, majestic, leguminous forest tree, with tough, stiff, durable, beautifully-grained wood, susceptible of fine polish, and well adapted to furniture making.

The kinds most extensively handled as lumber in this market and the prices per ton of 50 cubic feet, are the following:

Seriah	*$14 to $25
Mirabou	30 to 45
Jelulong	15 to 20
Darrou	20 to 25
Balan	25 to 35

In addition to the above, there is considerable teakwood imported here, mainly from Burmah and Siam, which commands on the spot from $40 to $65 (Mexican) per ton.

The value (in Mexican dollars) of the exports and imports of the Straits Settlements of planks and timber during the year 1893, was as follows:

EXPORTS.

Kind.	Singapore.	Penang.	Malacca.	Total.
Planks	$492,788	$99,094	$425	$592,307
Timber	382,450	35,245	...	417,695
Total	875,238	134,339	425	1,010,002

IMPORTS.

Kind.	Singapore.	Penang.	Malacca.	Total.
Planks	$181,108	$48,468	$8,542	$238,118
Timber	141,337	47,499	6,672	195,508
Total	322,445	95,967	15,214	433,626

From the above tables it will be seen that the lumber exports of the whole of this colony exceeded the imports by $576,376 (Mexican). The imports of lumber here are mainly from Burmah, Siam, and Dutch India; the exports to Arabia, Bombay, the Malabar coast, Hongkong, China ports, French Indo-China, German New Guinea, Mauritius, Siam, Sumatra, and North Borneo. There is no import duty imposed upon lumber of any description in this colony.

The climate of the Straits Settlements is moist and tropical, with an annual rainfall of from 88.48 inches to 126.29 inches, an average mean temperature of between 80.5° F. and 82.1° F., and no preceptible change of seasons throughout the year.

At present there is but little being done here in the way of general building, and shipbuilding is confined to the construction of launches and native junks, and to the repairing of steam and sailing vessels.

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*These prices are quoted in Mexican dollars.

In the Straits Settlements proper there are no railways. Those constructed, or in course of construction in the Native Protected States of the Malay Peninsula, are as follows:

State of Perak.—A railway from Port Weld to Taiping (8 miles) was opened in 1885; an extension to Kanumberg, opened in 1890; to Uln La'petang in 1892, and a survey is now completed as far as Kuala Selama. The Kintu Valley Railway has been begun, and is expected to be completed by the end of 1894. This road will extend from the port of Telok Anson to Ipoh, a distance of 50 miles.

State of Salangor.—A railway from Klang to Kula Lumpor, a distance of 22 miles, opened in 1886, is one of the most remunerative roads in existence. It pays 17 per cent on the original capital, with a working expenditure of 46 per cent of the gross receipts. An extension to Rawang, Serandah, and Kuala Kubu, a total distance of 38 miles, is under construction.

State of Sungeillgoing.—A railway 24½ miles in length, from Port Dickson to Seremban, was opened in 1891.

Considering the vast sources of supply which it has so much nearer at hand, I do not see that there is any opening in this market for the extension of trade in American lumber. I believe, however, that our sawmilling machinery might be introduced here to advantage.

E. SPENCER PRATT,
Consul-General.

SINGAPORE, *July 2, 1894.*

LUMBER IN WESTERN INDIA.*

NATIVE WOODS.

The principal native woods are teak, rosewood, and walnut. Rosewood, or blackwood, is largely used for yokes, cart-wheels, plows, knee timbers for boats, handles for knives, etc. It is also used for cabinetmaking. In its wild state the tree attains a height of 60 to 80 feet, with a girth ranging up to 20 feet. It is fine-grained, strong, and heavy; weight per square foot, 50 to 54 pounds.

East Indian walnut generally grows very fast, attains a height of 50 to 65 feet, and a girth of 6 to 10 feet; weight of wood per cubic foot, 40 to 60 pounds. It is used for picture frames, sugar-cane crushers, oil mills, etc.

Teak is one of the most valuable woods used in India; it does not warp, and the white ants, which are most destructive insects in India, do not touch it. The wood lasts many years, and changes in appearance as it grows old. In an old Hindoo cave, about 90 miles from Bombay, there is a ceiling lined with teakwood which is said to have been in position twelve hundred years. Teakwood is mostly used for shipbuilding, construction of houses, and cabinetmaking. It is the best lumber to be found for making furniture.

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* Received too late for publication in the Special Consular Reports entitled, "American Lumber in Foreign Markets."

GENERAL BUILDING.

In the Presidency of Bombay there were 154¼ miles of railway under construction in the official year 1892–'93, and 1,256¾ miles surveyed and under survey. All the railroad companies have their own carshops and build their own cars. Iron sleepers are largely used in place of wood. Locomotives are imported from England.

There is no shipbuilding of any consequence; only small steam and sailing craft of not over 200 tons burden are built.

Buildings (with but few exceptions) are of stone, and the majority of the large public buildings, and many business and private houses, show fine architectural skill. As a rule, they are large and airy.

CLIMATE.

The climate here is tropical. The seasons are divided as follows: December to March (121 days) is the cold season; April and May (61 days) are hot and dry; June to September (122 days) is the rainy season, and October and November (61 days) are hot and damp. The temperature ranges from 70° F. to 98° F., rarely above 92° F. Humidity ranges from 69 per cent in the cold season to 88 per cent in the rainy season. During June, July, August, and September (the rainy season), which is called the "monsoon" period, clothing, leather, and iron-work are damaged or destroyed by the action of the elements, unless the greatest care is taken.

PRICES OF LUMBER.

Blackwood or rosewood per ton, at Cochin, $15 to $22; other ports, $6 to $12. Cut in the forest, prices are from $3 to $15 per ton. The rate of transport to coast (floating in streams) is nil.

Teakwood per cubic ton: Burma teak cut lumber, 1 by 1 inch by 3 feet and upwards, $16; 2 by 6 inches by 3 feet and upwards, $22; beams, $17.50 to $28; logs (per 10 cwts.) $2.50; Singapore teak, beams, and planks, $18.

Norwegian deal boards, 6 by ⅜ inches by 12 to 24 feet, $21 per cubic ton; Hull deal boards, 6 by 1 inches by 12 to 24 feet, $21 per cubic ton; American deal boards, 6 by 1 inches by 12 to 24 feet, $21 per cubic ton.

CUSTOMS DUTY.

The duty on timber from foreign countries is 5 per cent, to which must be added a city (Bombay) custom duty of 2½ per cent.

IMPORTS AND EXPORTS.

The imports and exports of teak into and from Bombay during the fiscal year ending March 31, 1892–'93 were as follows: Imports, 70,914 cubic tons, valued at $807,918.98; exports, 8,490 tons, valued at $144,487.50.

Imports and exports of all other timber, in 1892–'93 were: Imports, 7,846 cubic tons, valued at $55,583.23; exports, 1,553 cubic tons, valued at $13,633.62.

H. J. SOMMER, Jr.,
Consul.

BOMBAY, *June 22, 1894.*

NOTES.

Italian Fruit for the United States.—The Department of State is in receipt of consular advices from Italy, showing that many of the shippers of fruit from that country to the United States have letters of credit from the American commission merchants authorizing them to draw 50 per cent of the invoice value of the shipments. It is easy to understand how this system may lead, in many cases, to overvaluation, entailing extra labor upon the consuls and losses to the consignees. The consuls, posted in the wholesale value of fruit in the Italian markets, refuse to certify to overvaluations, and, as the fruit is on shipboard when the invoices are presented for certification, they are placed in a position of offending the shippers by refusing to certify at the values given, or of entailing losses upon the consignees by certifying the invoices. The results are that, notwithstanding the best efforts of the consuls, the American consignees very often suffer financial losses, for which they blame the consuls, forgetting that their own action thwarts the best efforts for their protection.

Some credits authorize the bankers to advance so many shillings per box of lemons or oranges invoiced. It is suggested that if all credits were of this description, or if the consignees would give fixed prices for fixed times, beyond which invoices should not be certified, it would save them much financial loss, and also save both shippers and consuls worry and trouble.

Paying Customs Duties in Salvador.—Under date of July 22, Consul Pollock, of San Salvador, transmitted the following:

> Yesterday an executive decree changing the rule of paying customs duties was published in the Diario Oficial to this effect, that, whereas heretofore 70 per cent of the duties were payable in gold and 30 per cent in silver, the ratio now is to be 50 per cent in gold and 50 per cent in silver. This, on the face of it, would seem to be an advantage, but in reality it is not, because the rate of exchange since the decree prohibiting the importation of silver has been abolished has gone up, and is still going up, and the value of $50 in gold is now the same as the value of $70 was before we had free silver.
>
> The new order also provides that all customs duties must hereafter be paid in cash, while heretofore the 30 per cent in silver could be paid in bonds. It is said that this rule will apply only for the time the commission which was appointed to examine the accounts of the late administration is at work. I hope this is true, because many American merchants here have advanced money to the late Government during the recent revolution upon bonds which they expect to be redeemed, whichever side should win, in the usual way through the custom houses.

Port Charges in Santo Domingo.—Under date of August 20, Vice-Consul Read, of Santo Domingo City, reports as follows in answer to an instruction from the Department concerning changes in the financial policy of the Dominican Republic:

I have to confirm the accuracy of the tonnage port charge, as reported to the Department on June 6th. (See CONSULAR REPORTS No. 166, page 498). By the present law, port charges are practically doubled, since the Dominican Government fixes the ratio of gold to silver at two to one; the charges, formerly $2.65 per registered ton in silver, are now $2.65 in gold.

Tariff on Refrigerators in Venezuela.—Under date of September 1, Consul Plumacher, of Maracaibo, transmitted to the Department of State a resolution of the Venezuelan Executive fixing the import duty on refrigerators at 2 cents per kilogram.

Artificial Teeth.—Vice-Commercial Agent Murphy, of Luxemburg, under date of July 26, transmits the following translation of an article from L'Independance Luxembourgeoise, of July 23, 1894:

It is in America that the worst teeth are found, which accounts for the multitude of dentists, more or less American, scattered over the globe, and especially for the importance of the American fabrications of everything pertaining to the art of the dentist. If it is possible to believe authentic documents, the cost of an artificial tooth at the factory in the United States should not exceed 30 or 35 cents. One of these factories in New York sells not less than 8,000,000 of these teeth per annum. The teeth are of porcelain, covered with a special enamel, the application of which is so delicate that there are not two teeth which are tinted exactly alike. Moreover, there are about fifty different tints, which are artificially obtained, corresponding with the color variations of natural teeth. The imitation is carried so far in simulating defects as to render the illusion more complete. If these dispatches are credible, the factory stocks ought to be quickly exhausted.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of September to other Departments for publication, or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
C. M. Caughy, Messina	June 15, 1894	Adulteration of essential oils	Department of Agriculture.
Do	July 8, 1894	Analysis of essential oils	Do.
E. Schneegans, Saigon	July 28, 1894	Rice market of Saigon	Do.
W. I. Buchanan (minister), Buenos Ayres.	July —, 1894	Wool-growing in the Argentine Republic.	Do.
E. Germain, Zurich	Aug. 24, 1894	Hungarian crops	Do.
Max Judd, Vienna	Sept. 8, 1894	Crop report for Austria	Do.
Charles L. Adams, Cadiz	Sept. 13, 1894	Staple crops of southern Spain	Do.
E. Schneegans, Saigon	Sept. 14, 1894	Rice	Do.

Erratum in Consular Reports No. 165.—In printing the edition of CONSULAR REPORTS No. 165, at the Government Printing Office, page 338 (a part of Consul-General Maratta's report upon "Flour in Victoria") was omitted, and page 238 (a reproduction of Consul-General Mason's report upon "Electrical Smelting in Germany") was inserted instead. To rectify this error pages 337 and 338 have been reprinted, and these pages are herewith transmitted in this number of CONSULAR REPORTS No. 169, for October, 1894. The recipients, especially those who keep these reports for reference, are requested to cut out of No. 165 page 337—the erroneous page being on the reverse side—and insert the corrected pages, already gummed and prepared for that purpose.

Wool-growing.—A report of Minister Buchanan on wool-growing in the Argentine Republic, was referred to the Agricultural Department, and was printed in the "Report of the Statistician" for September, 1894.

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Vol. XLVI. No. 170.

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CONSULAR REPORTS.

NOVEMBER, 1894.

COMMERCE, MANUFACTURES, ETC.

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DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1894.

PUBLICATIONS OF THE BUREAU OF STATISTICS.

In addition to the monthly CONSULAR REPORTS, the following works have been published by the Bureau of Statistics:

"Labor in Europe," 1878, one volume; "Labor in Foreign Countries," 1884, three volumes; "Commerce of the World and the Share of the United States Therein," 1879; "Commerce of the World and the Share of the United States Therein," 1880–'81; "Declared Exports for the United States, First and Second Quarters, 1883;" "Declared Exports for the United States, Third and Fourth Quarters, 1883." "Cholera in Europe in 1884," 1885; "Trade Guilds of Europe," 1885; "The Licorice Plant," 1885; "Forestry in Europe," 1887; "Emigration and Immigration," 1885–'86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); "Rice Pounding in Europe," 1887; "Sugar of Milk," 1887; "Wool Scouring in Belgium," 1887; "Cattle and Dairy Farming in Foreign Countries," 1888 (issued first in one volume, afterwards in two volumes); "Technical Education in Europe," 1888; "Tariffs of Central America and the British West Indies," 1890.

The editions of all these publications except the one last mentioned are exhausted.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that at length in 1890 the Department decided to publish such reports in separate form to be entitled "Special Consular Reports." There are now the following "Special Consular Reports:"

Vol. 1 (1890).—"Cotton Textiles in Foreign Countries," "Files in Spanish America," "Carpet Manufacture in Foreign Countries," "Malt and Beer in Spanish America," and "Fruit Culture in Foreign Countries."

Vol. 2 (1891).—"Refrigerators and Food Preservation in Foreign Countries," "European Emigration," "Olive Culture in the Alpes Maritimes," and "Beet Sugar Industry and Flax Cultivation in Foreign Countries."

Vol. 3 (1891).—"Streets and Highways in Foreign Countries."

Vol. 4 (1892).—"Port Regulations in Foreign Countries."

Vol. 5 (1892).—"Canals and Irrigation in Foreign Countries."

Vol. 6 (1892).—"Coal and Coal Consumption in Spanish America," "Gas in Foreign Countries," and "India Rubber."

Vol. 7 (1892).—"The Stave Trade in Foreign Countries," and "Tariffs of Foreign Countries."

Vol. 8 (1892).—"Fire and Building Regulations in Foreign Countries."

Vol. 9 (1892 and 1893).—"Australian Sheep and Wool," and "Vagrancy and Public Charities in Foreign Countries."

Vol. 10 (1894).—"Lead and Zinc Mining in Foreign Countries" and "Extension of Markets for American Flour."

Vol. 11 (1894).—"American Lumber in Foreign Markets."

Of these Special Reports "Cotton Textiles in Foreign Countries," "Files in Spanish-America," "Malt and Beer in Spanish America," "Canals and Irrigation," and "Fire and Building Regulations" are exhausted.

The Bureau of Statistics of the Department of State will be grateful for the return of any monthly or special numbers of Consular Reports.

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Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands§	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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*In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do.	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do.	Peso	.96,5	.91,8	.91,8	.83,6		
China	Silver	Haikwan tael	1.61	1.61				
Colombia	do.	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do.	do.	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).			4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7		
	Silver						.87,6	.86,9
Mexico	do.	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands ‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2		
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do.	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do.	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34.5	$0.33,6	$0.42
Bolivia	do.	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do.	Peso				.69,9	.68	.85
Colombia	do.	do.	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do.	do.	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen			.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do.	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do.	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do.	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1891.				1892.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown	....	....	....	....	....	....	....	$0.20,3
	Silver florin	$0.38,1	$0.36,3	$0.36,3	$0.35,7	$0.34,1	$0.32,8	$0.32	....
Bolivia	Silver boliviano	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Central America	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
China†	Shanghai tael	1.13,9	1.08,5	1.08,7	1.06,8	1.02,1	.98,2	.95,8	.91
	Haikwan tael	1.27	1.20,9	1.21	1.18,9	1.13,7	1.09,3	1.06,7	1.01,3
Colombia	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Ecuador	......do	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
India	Silver rupee	.36,6	.34,9	.35	.34,3	.32,8	.31,6	.30,8	.29,3
Japan‡	Silver yen	.83,1	.79,2	.79,3	.77,9	.74,5	.71,6	.69,9	.66,4
Mexico	Silver dollar	.83,7	.80	.80	.78,5	.75	.72,2	.70,4	.66,9
Peru	Silver sol	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Russia§	Silver ruble	.61,7	.58,8	.58,8	.57,8	.55,3	.53,1	.51,9	.49,2
Tripoli	Silver mahbub	.69,5	.66,3	.66,4	.65,2	.62,3	.60	.58,5	.55,5
Venezuela ‖	Silver bolivar	.15,4	.14,7	.14,7	.14,5	.13,8	.13,3	.13	.12,3

Countries.	Monetary unit.	1893.				1894.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	Oct. 1.
Bolivia	Silver boliviano	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.46,4
Central America	Silver peso.	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
China†	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.76,3
	Tien-Tsin tael	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
Ecuador	.........do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.22
Japan‡	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
Russia§	Silver ruble	.49,1	.48,8	.48,3	.42,5	.41,3	.37,2	.37,1
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.46,5	.41,9	.41,8

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* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Desiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs. full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅓ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82$\frac{2}{7}$ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135 1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

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WAGES OF STEAMSHIP BUILDING AND CREWS.

The following reports, showing the rates of wages paid by European builders of ocean steamships and by steamship-owners, are replies to a Department circular, addressed to the United States consuls under date of May 7, 1894, and are printed in CONSULAR REPORTS in order that reliable figures may be available for those who are specially interested in the subject of the cost of building and operating ocean steamers. They cover the following interrogatories:

(1) Wages per day or week paid at shipyards to pattern-makers, machinists, boiler-makers, plumbers and pipe-fitters, carpenters, joiners, drillers, fitters-up, riveters, calkers, painters, furnace men, sheet-iron workers, coppersmiths, molders (iron and brass), laborers.

(2) Hours of labor and number of weeks of employment given during the year.

(3) Whether the steamships built are of iron or steel.

(4) Wages paid per day, week, or month to crews of steamships, giving amounts for each of the following classes: Able seamen, ordinary seamen, engineers, firemen, trimmers, deck hands, carpenters, and stewards.

The reports given herewith are:

Austria.—Trieste.

France.—Bordeaux and Havre.

Germany.—Bremen, Bremerhaven-Geestemunde, Hamburg (including Kiel and Lübeck), and Stettin.

Italy.—Genoa and Leghorn.

Netherlands.—Rotterdam.

Russia.—Odessa and Riga.

United Kingdom.—England: Liverpool, Newcastle-on-Tyne, and Sunderland; Ireland: Belfast; Scotland: Glasgow and Leith.

AUSTRIA.

I have the honor to report upon wages paid by builders of ocean steamships and by steamship owners in Trieste.

Per diem wages paid by steamship-builders.

Description.	Wages.	Description.	Wages.
Pattern-makers and machinists	$0.70 to $1.30	Joiners, drillers, fitters-up, riveters, calkers, painters, furnace men	$0.50 to $0.75
Boiler-makers	.60 to .90	Coppersmiths and molders	.60 to .90
Plumbers and pipe-fitters	.60 to .90	Iron and brass workers	.40 to .50
Carpenters	.50 to .75		

There are no sheet-iron workers here.

The hours of labor are ten, and work is steady throughout the year.

Wages paid per month to crews of the regular lines.

Description.	Wages.	Description.	Wages.
Able seamen	$8.50	Fourth engineers	$20.00
Ordinary seamen	6.80	Firemen	$9.50 to 13.00
First engineers:		Trimmers	6.80
First-class, English	68.00	Deck hands	4.80
First-class, national	60.00	Carpenters	10.50
Second-class, national	45.00	Stewards	2.80 to 16.00
Second engineers	30.00	Chambermaids	6.40
Third engineers	24.00		

Wages paid by tramp or freight steamers.

Description.	Wages.	Description.	Wages.
Able seamen	$8.80	Firemen	$12.00 to $14.00
Ordinary seamen	6.40	Deck hands	6.00
First engineers	60.00	Carpenters	16.00
Second engineers	36.00	Cook	12.00
Third engineers	24.00		

J. EDWARD NETTLES,
Consul.

TRIESTE, *July 19, 1894.*

FRANCE.

BORDEAUX.

Shipbuilding is carried on in Bordeaux only to a very limited extent, there being but one shipyard, and that for the building and construction of war vessels.

Per diem wages paid to the workmen.

Description.	Wages.	Description.	Wages.
Plumbers	$1.35	Riveters	$1.00
Brass, iron, and steel workers	1.16	Furnace masons	1.00
Carpenters	1.15	Painters	1.35
Drillers	1.35	Tinsmiths	1.35

Monthly wages of crews.

Description.	Wages.	Description.	Wages.
Captains	$96.50	Head cook	$21.23
Mates	48.25	Second cook	16.40
Carpenters	19.30	Bakers	19.30
Able seamen	11.00	Chief engineers	67.55
Apprentices	7.72	Assistant engineers	48.25
Doctors	48.25	Second assistant engineers	19.30
Steward	19.30	Firemen and stokers	16.40

J. M. WILEY,
Consul.

BORDEAUX, *July 7, 1894.*

HAVRE.

The labor question is at this time disturbing every nation of Europe, and the recent ministerial crisis in France was precipitated by this very question. By a recent law, combinations of workmen are allowed in France, and already these combinations are demanding that all work shall be paid for by the day, and a proposition has been introduced into the Chamber of Deputies by Mr. Jules Guesde that men employed in manufactories, workshops, etc., shall be required to work not more than eight hours per day, and only six days in the week.

At present, ten hours constitute a day's work (continuous employment), and the workmen can, if so inclined, "turn an honest penny" on Sunday at the same rate of wages. The following tables set forth in detail the wages paid each class of workmen in Havre. These are regarded as a scant "living wage."

Per diem wages paid at shipyards.

Description.	Wages.	Description.	Wages.
Pattern-makers	$1.26	Riveters	$1.01
Machinists	1.16	Calkers	1.16
Boiler-makers	1.16	Painters	1.06
Plumbers	1.16	Furnace men	.87
Pipe-fitters	1.16	Sheet-iron workers	1.16
Carpenters	1.16	Coppersmiths	1.16
Joiners	1.16	Molders	1.16
Drillers	1.16	Laborers	.68
Fitters-up	1.45		

Both iron and steel are employed in steamship-building.

Wages paid per month to crews of passenger steamships, rated according to time in the service.

Description.	Minimum.	Maximum.	Description.	Minimum.	Maximum.
Captains	$67.55	$96.50	Second stewards	$19.30	....
Chief officers	57.90	67.55	Waiters	7.72	$17.37
Second officers	28.95	48.25	First-class firemen	21.23	23.16
Chief engineers	77.20	96.50	Second-class firemen	15.44	18.34
Second engineers	67.55	....	Coal-trimmers	11.58	13.51
Third engineers	48.25	....	Boatswains	21.23	24.13
Pursers	38.60	77.20	Carpenters	19.30	23.16
Doctors	57.90	77.20	Sailmakers	13.51	15.44
Chief stewards	24.13	48.30	Able seamen	14.48	....
Cooks	15.44	48.30	Ordinary seamen	7.78	....
Stewardesses	7.72	....	Deck hands	12.55	13.51
Interpreters	15.44	17.37	Boys	4.83	....
Infirmary men	13.51	....			

Wages paid per month to crews of "tramp" steamers.

Description.	Wages.	Description.	Wages.
Captain*	$38.60	Third engineers	$28.95
Mate	38.60	Firemen	15.44
Second mate	27.02	Coal-trimmers	11.58
Boatswain	21.23	Carpenters	15.44
Able seamen	11.58	Steward	14.48
Chief engineer	77.20	Cook	16.41
Second engineers	36.80	Boy	5.79

* And 1 per cent on gross freight.

The foregoing wages apply to what may be called the permanent or regular staff of workmen employed in shipbuilding and on ocean steamers, but this "regular staff" is only sufficient to cope with the minimum amount of work or business to be transacted at shipyards. The method adopted of doing the work when it exceeds the capacity of the regular staff is to call in the aid of "outsiders," at a somewhat extra rate of pay for the time they are required.

C. W. CHANCELLOR,
Consul.

HAVRE, *May 30, 1894.*

GERMANY.

BREMEN.

Wages paid per day at the Bremen shipyards and the Norddeutscher Lloyd shipyards at Bremerhaven.

Description.	Different Bremen shipyards.	Norddeutscher Lloyd shipyards.	Description.	Different Bremen shipyards.	Norddeutscher Lloyd shipyards.
Pattern-makers	$0.71 to $0.95	$0.71	Painters	$0.71 to $0.95	$0.89
Machinists	.74 to .95	.85	Riveters	.71 to .73	.85
Boiler-makers	.74 to .88	.87	Calkers	.71 to .73	.85
Plumbers and pipe-fitters.	.71 to .93	.73	Furnace men	.74	.78
Carpenters	.90 to .95	1.00	Sheet-iron workers	.93	.94
Joiners	.90 to .95	.95	Molders	.64 to .83	.83
Drillers	.73 to .83	.99	Laborers	.62 to .99	.79
Fitters	.71 to .73	.85			

The foregoing wages are paid for ten hours' labor per day. The employment at the Norddeutscher Lloyd is permanent; in other Bremen shipyards, the time of employment depends upon the quantity of work on hand. It is, however, a rare case for a good workman to receive his discharge as long as there is any work for him, and it frequently occurs that the shipbuilders are building vessels on their own account, in order to keep their good workmen employed.

Almost all steamships built now are of steel, but some of the smaller ships are still built of iron.

Wages paid per month to crews of steamships.

Description.	Norddeutscher Steamship Company.	Other steamers.	Description.	Norddeutscher Steamship Company.	Other steamers.
Seamen:			Carpenters:		
Able	$13.09	$11.90	First	$17.14 to 19.04	$17.85
Ordinary	$4.76 to 9.52	8.33	Second	14.52 to 15.95	11.90
Engineers:			Trimmers	14.28 to 15.47	10.71
Chief	71.00 to 98.77	71.00	Deck hands	11.90 to 13.57	10.71
Second	51.17 to 60.69	42.84	Stewards:		
Third	38.08 to 45.22	28.56	Chief	19.04 to 28.56	11.90
Firemen	14.28 to 15.47	13.09	Common	8.33	5.85

H. M. STARKLOFF,
Consul.

BREMEN, *June 27, 1894.*

BREMERHAVEN-GEESTEMUNDE.

Per diem wages paid in the Bremerhaven-Geestemunde shipyards.

Description.	Wages.		Description.	Wages.	
	Marks.			*Marks.*	
Pattern-makers	4.00	$0.95	Riveters	3.60	$0.85
Machinists	4.00	.95	Calkers	3.60	.85
Boiler-makers	4.20	.99	Painters	3.80	.90
Plumbers	4.20	.99	Furnace men	4.00	.95
Pipe-fitters	4.20	.99	Sheet-iron workers	3.80	.90
Carpenters	4.00	.95	Coppersmiths	4.20	.99
Joiners	4.00	.95	Molders (iron and brass)	4.50	1.07
Drillers	3.50	.83	Laborers	3.00	.71
Fitters-up	3.50	.83			

The employés are paid by the hour, but, as a general thing, the shipyards run ten hours per day and are open during the whole year, but in dull seasons, they discharge many of their men.

Most, if not all, steamships are built of steel.

Under the heading of wages of crews I give wages paid by "tramp" freight steamers, and also those paid by the North German Lloyd Company, per month:

Description.	Wages.	
Freight steamers.	*Marks.*	
Able seamen	50	$11.90
Ordinary seamen and deck hands	24 to 40	$5.71 to 9.52
Engineers:		
First	300	71 40
Second	160 to 200	38.08 to 47.60
Third	100 to 120	23.80 to 28.56
Assistant engineers	65 to 80	15.47 to 19.04
Firemen	60	14.28
Trimmers	50	11.90
Carpenters	80	19.04
Stewards	30 to 50	7.14 to 11.90
North German Lloyd.		
Able seamen	55	13.09
Ordinary seamen and deck hands	24 to 40	5.71 to 9.52
Engineers:		
First	300 to 415	71.40 to 98.77
Second	250 to 280	59.50 to 66.64
Third	180 to 220	42.84 to 52.36
Fourth	110 to 150	26.18 to 35.70
Assistant engineer	80 to 100	19.04 to 23.80
Engineer's apprentices	65	15.47
Firemen	60 to 65	14.28 to 15.47
Trimmers	50 to 57	11.90 to 13.56
Carpenters	70 to 80	16.66 to 19.04
Stewards	35	8.33

The foregoing information was obtained for me by a gentleman connected with the shipbuilding and ship-owning firm of R. C. Rickmers.

W. B. MURPHY,
Consular Agent.

BREMERHAVEN-GEESTEMUNDE, *June 6, 1894.*

HAMBURG.

Per diem wages paid in the shipyards of the Hamburg district.

Description.	Shipyards.				
	Hamburg American Line.	Blohm & Voss.	Flensburg Shipbuilding Co.	Kiel.	Lübeck.
Pattern-makers	$1.07	$0.83 to $0.95	$0.86	$0.83	$1.12
Machinists	$0.83 to .95	.83 to 1.07	.76	.95	1.16
Boiler-makers	.85 to .95	.83 to 1.07	.80	.95	.90
Plumbers and pipe-fitters	.95 to 1.07	1.07 to 1.20	.76	$0.71 to .77	.69
Carpenters	1.07	1.09	.85	.77	.83
Joiners	1.00	.83 to .95	.85	.83	.81
Drillers	.95 to 1.07	.83 to .90	.65	.71	.71
Fitters-up	...	.83 to .90	.76	.83	.69
Riveters	...	.90 to 1.00	.76	.77	.71
Calkers	...	.83 to .90	...	.71	.83
Painters	.95 to 1.07	.95	.77	.83	.81
Furnace men	...	...	.80	.83	.90
Sheet-iron workers	...	...	.80	.71	.71
Coppersmiths	.96 to 1.07	1.20	.80	1.07	.90
Molders	...	...	.86	.95	.90
Laborers	.78½	.80 to .83	.65	.66	.60

The hours of labor in all the foregoing yards are ten.

In the Hamburg-American and Blohm-Voss yards, work is steady throughout the year; in the Flensburg and Kiel yards, work runs three hundred days per annum, and about forty-two weeks in the Lübeck yards.

The Hamburg-American yard only repairs. The vessels built in the Blohm-Voes and Lübeck yards are all of steel, those built in the Flensburg yards are nearly all of steel, while those built in the Kiel yards are partly iron and steel.

Wages per month of crews.

Lines.	Seamen.		Engineers.		
	Able.	Ordinary.	First.	Second.	Third.
Hamburg-American line (between Hamburg and the United States, etc.)	$11.90	$7.14	$101.19	$71.93	$47.62
Kosmos line (between Hamburg and South America)	11.90	7.14	82.60	53.30	28.56
German-Australian Steamship Company	11.90	7.14	71.43	47.62	28.56
Sloman line (between Hamburg and the United States)	11.90	......	83.30	47.62	28.56
German Merchant Steamship Company	11.90	*3.80	88.53	50.45	26.65
Hamburg Pacific steamship line	11.90	......	77.35	47.60	28.56
Hamburg-South American Steamship Company	11.90	8.33	71.40	47.60	29.75
German Levant line	11.90	7.14	65.45	42.85	23.80
Flensburg Steamship Company, Flensburg (10 steamers)	10.75	9.00	47.62	28.56	......
Holm & Molzen merchant steamship line, Flensburg (9 steamers)	10.75	9.00	45.00	28.56	......
C. W. Frohne line, Flensburg (4 steamers)	10.75	9.00	42.00	25.00	......
Schuldt Steamship Company, Flensburg (12 steamers)	10.71	8.56	47.60	25.00	......
Steamship companies at Kiel	10.71	$4.76 to 7.14	42.84	25.00	......
Steamship companies at Lübeck	11.90	8.33	47.60	23.80	......

Lines.	Firemen.	Trimmers.	Deck hands.	Carpenters.	Stewards.
Hamburg-American line (between Hamburg and the United States, etc.)	$14.28	$9.55 to $11.90	$4.76	$15.50 to $19.00	$6.00 to $7.00
Kosmos line (between Hamburg and South America)	14.28	11.90	4.76	19.05	†8.00 to 8.50
German-Australian Steamship Company	14.28	9.52 to 11.90	......	19.05	7.14 to 14.28
Sloman line (between Hamburg and the United States)	14.28	11.90	......	17.85	4.76 to 9.52
German Merchant Steamship Company	14.28	9.52 to 11.90	......	19.05	4.76 to 16.66
Hamburg Pacific steamship line	14.28	9.52 to 11.90	......	19.05	5.95 to 14.28
Hamburg-South American Steamship Company	14.28	11.90	......	22.60	7.14 to 14.28
German-Levant line	14.28	11.90	......	17.85	4.76 to 9.52
Flensburg Steamship Company, Flensburg (10 steamers)	10.75	9.00	$4.00 to 5.00	14.28	10.00 to 12.00
Holm & Molzen merchant steamship line, Flensburg (9 steamers)	10.75	9.00	......	......	......
C. W. Frohne line, Flensburg (4 steamers)	10.75	9.00	......	17.50	......
Schuldt Steamship Company (12 steamers)	10.70	8.56 to 9.50	5.00 to 6.00	17.85	11.90 to 13.10
Steamship companies at Kiel	10.71	10.71	3.50 to 6.00	28.56 to 35.70	16.66 to 19.05
Steamship companies at Lübeck	11.90	9.52	4.76	17.85	9.52

* Boys.

† Chief stewards, $16.66.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *June 17, 1894.*

In connection with my report of the 17th of last month on shipbuilding and steamship wages in Hamburg, I have the honor to transmit a translation of an extract from an official report of this city, showing the average wages paid per month at this port during 1893 to officers and crews of all classes of vessels.

Description.	Wages.	Description.	Wages.
Transatlantic passenger steamers:		Crews of steamships in general—Continued	
First officer	$36.76	Blacksmith	$13.90
Second officer	26.42	Sailmaker	13.69
Third officer	22.02	Quartermaster	14.28
Fourth officer	19.09	Full sailor	13.28
Passenger steamers in European trade:		Sailors	12.13
First officer	28.50	Ordinary seamen	7.85
Second officer	20.00	Boys	3.76
Large freight steamers:		Head cook	25.28
First officer	39.76	Second cook	18.06
Second officer	26.62	Under cook	7.68
Third officer	22.22	Confectioner	14.28
Small freight steamers:		Baker	13.52
First officer	28.50	Butcher	9.50
Second officer	18.65	Head steward	17.46
Sailing vessels:		Second steward	12.91
First officer	26.58	Steward's assistant	6.94
Second officer	18.56	Stewardess	7.34
Under officer	15.97	First engineer—	
Single officer (one only on vessel)	21.42	Transatlantic	79.31
Crews of steamships in general:		European trade	50.10
Storekeeper	31.41	North Sea and Baltic	32.09
Storekeeper's assistant	14.28	Engineer with fourth-class patent	23.40
Purser	38.08	Second engineer—	
Purser's assistant	14.88	Transatlantic	50.10
Surgeon	25.22	Large freight	50.10
Surgeon's assistant	7.93	European trade	32.09
Carpenter	19.11	Engineer's assistant	16.08
Cooper	15.47	Firemen	14.08
Boatswain	16.89	Trimmers	10.76
Tinsmith	11.90		

W. HENRY ROBERTSON,
Consul.

HAMBURG, *July 19, 1894.*

STETTIN.

Per diem wages in the Stettin shipyards.

Description.	Wages.	Description.	Wages.
Pattern-makers	$0.75 to $1.00	Riveters	$0.60 to $0.80
Machinists	.75 to 1.25	Calkers	.60 to .80
Boiler-makers	.75 to 1.25	Painters	.70 to .85
Plumbers and pipe-fitters	.60 to 1.25	Furnace men	.75 to 1.00
Carpenters	.75 to 1.12	Sheet-iron workers	.70 to .85
Joiners	.75 to 1.00	Coppersmiths	.70 to .65
Drillers	.75 to 1.00	Molders	.65 to .85
Fitters-up	.75 to 1.00	Laborers	.60 to .70

The hours of labor are ten to ten and one-half per day, with employment for two hundred and ninety-five days per year.

All steamships are built of steel.

Monthly wages paid to crews of steamships in their respective classes.

Description.	Wages.	Description.	Wages.
Engineers:		Trimmers	$12.00
First	$70.00 to $80.00	Deck hands	12.00
Second	35.00 to 40.00	Carpenters	19.00
Third	30.00 to 40.00	Stewards	16.00
Fourth	28.00	Quartermasters	14.50
Firemen	14.50		

F. W. KICKBUSCH,
Consul.

STETTIN, *June 26, 1894.*

ITALY.

GENOA.

The following statement shows the per diem wages paid by builders of ocean steamships and by steamship-owners in Genoa:

Pattern-makers.—Seventy per cent receive 60 cents and 30 per cent $1.

Machinists.—Eighty per cent receive 60 cents and 20 per cent $1.20.

Boiler-makers.—Eighty per cent receive 50 cents and 20 per cent $1.

Smiths.—Eighty per cent receive 60 cents and 20 per cent $1.20.

Carpenters and joiners.—Fifty per cent receive 60 cents and 50 per cent 90 cents.

Fitters-up.—Fifty per cent receive 60 cents and 50 per cent $1.

Molders (iron and brass).—Fifty per cent receive 60 cents and 50 per cent $1.20.

Laborers.—Fifty per cent receive 40 cents and 50 per cent 60 cents.

Riveters are employed mostly on piecework (so much per hundred), the price running from 60 cents to $2, according to the size of the rivet. This includes two riveters and one holder-on, and one boy for ordinary work with rivets up to three-quarters of an inch; above that size, another assistant is required.

Calkers, also, do piecework at prices running from 8 cents to 22 cents per lineal meter, according to thickness of plate.

The hours of labor are generally ten per day.

The steamships built here are nearly all made of mild steel (Martin Siemens.)

For the above statistics, I am indebted to Messrs. Wilson & Maclaren, founders and shipbuilders at Sampierdarena, near Genoa.

The following are the wages paid to crews of steamships under the Italian flag, and for transatlantic voyages. Wages for coasting steamers may be reckoned 15 per cent less. There is no difference between "tramp" and regular line steamers. The former have to pay as much for their crews, as the employment on them has not such a degree of stability as on regular steamers.

Description.	Wages per month.	Description.	Wages per month.
Seamen:		Officers:	
Able	$12	Commander	$70
Ordinary	$8 to 9	First mate	40
Cabin boys	3 to 5	Second mate	30
Engineers:		Third mate	20
Chief	80	Firemen	17
Second	50	Trimmers	12
Third	34	Stewards	18

JAMES FLETCHER,
Consul.

GENOA, *July 14, 1894.*

LEGHORN.

Messrs. Orlando Brothers, of Leghorn, the only shipbuilders in this consular district, report the following scale of average wages per day paid by them to their employés:

Description.	Wages.		Description.	Wages.	
	Lire.			*Lire.*	
Pattern-makers	4.00	$0.77⅕	Furnace men (firemen)	2.80	$0.54
Machinists (engineers)	10.00 to 25.00	$1.93 to 4.92½	Sheet-iron workers	4.00	.77⅕
Boiler-makers	5.00	.96½	Molders	4.00	.77⅕
Plumbers	3.00	.57⁹⁄₁₀	Laborers	2.50	.48²⁄₁₀
Pipe-fitters	4.00	.77⅕	Carpenters	4.20	.81
Riveters	3.00	.57⁹⁄₁₀	Joiners	3.15	.60⅘
Calkers	3.50	.67½	Drillers	3.00	.57⁹⁄₁₀
Painters	3.50	.67½	Fitters-up	4.50	.86⁹⁄₁₀
Coppersmiths	3.45	.66⅝			

Mr. Pietro Tassi, of Leghorn, the only steamship owner in this consular district, reports by letter, under date of the 5th instant, the following monthly wages paid on his vessels:

Description.	Wages.		Description.	Wages.	
	Lire.			*Lire.*	
Seamen	60	$11.58	Firemen	75	$14.48
First engineer	350	67.55	Trimmers	60	11.58
Second engineer	150	28.95	Steward	80	15.34
Third engineer	100	19.30	Cook	80	15.34

Mr. Tassi's steamers carry freight only.

ALEX. S. ROSENTHAL,
Consul.

LEGHORN, *June 11, 1894.*

NETHERLANDS.

Weekly wages paid in the Rotterdam yards.

Description.	Wages.	Description.	Wages.
Pattern-makers	$6.24	Riveters	$7.20
Machinists	6.72	Calkers	6.00
Boiler-makers	6.24	Painters	4.80
Plumbers	5.28	Furnace men	6.00
Pipe-fitters	5.28	Sheet-iron workers	5.08
Carpenters	4.80	Coppersmiths	5.64
Joiners	6.00	Molders (iron and brass)	6.00
Drillers	4.88	Laborers	4.20
Fitters-up	7 20		

For extra and sundry work, 50 per cent more than the regular rates is usual, although in some yards, when men are steadily employed by the week, only the regular rates are allowed for overtime. Piecework done in addition to a day's work is also paid at the extra rate.

Builders of ocean steamships in the consular district of Rotterdam run their building yards during the fifty-two weeks of the year. The men work six days per week, excepting five legal holidays during the year, for which days no pay is allowed.

Where men are paid by the week, working hours are from sixty-five to sixty-six hours; where they are paid by the hour, they work from fifty-five to sixty-five hours a week.

During the first five days of the week, the men work as follows: From 6 to 8:30, and 9 to 12 a. m.; 1 to 4, and 4:30 to 7 p. m., being eleven hours per day. On Saturdays, they work from 6 a. m. to 6 p. m., with the same intermissions as above, making ten hours for Saturday, and sixty-five hours for the week.

By far the greater number of vessels are now built of steel.

Wages per month of crews.

Description.	Wages.	Average.	Description.	Wages.	Average.
Seamen:			Deck hands:		
Able	$12.00 to $15.20	$13.86	First mate	$40 00 to $48.00	$43.80
Ordinary	4.80 to 8.00	6.60	Second mate	28.00 to 28.80	28.40
Engineers:			Third mate	20.00 to 21.60	20.80
First	80.00 to 96.00	88.66	Fourth mate	12.00 to 16.00	14.00
Second	40.00 to 57.60	47.40	Boatswain	18.00 to 24.00	21.00
Third	28.00 to 38.40	32.80	Boatswain's mate	17.60	17.60
Fourth	16.00 to 33.60	25.20	Quartermaster	13.60 to 16.00	14.80
Fifth	16.00 to 16.00	16.00	Stewards:		
Firemen	15.20 to 16.00	15.60	First	12.00 to 40.00	26.00
Trimmers	12.00 to 13.60	12.80	Second	6.00 to 20.00	14.00
Carpenters	24.00	24.00			

LARS S. REQUE,
Consul.

ROTTERDAM, *July 12, 1894.*

RUSSIA.

ODESSA.

I have the honor to submit the following information showing the wages per day paid to steamship builders and per month to crews of steamers in Odessa:

Description.	Wages.	Description.	Wages.
Pattern-makers	$0.70	Fitters-up	$0.80
Joiners	.70	Riveters	.70
Machinists	.90	Calkers	.65
Boiler-makers	.75	Painters	.70
Drillers	.70	Molders	.75

The hours of labor are sixty-two per week, and forty-eight weeks employment per year are given.

Wages of crews.

Description.	Wages.	For food.	Description.	Wages.	For food.
Seamen:			Chief engineer	$60.00	$15.00
Able	$10.00	$4.50	Stokers:		
Ordinary	7.50	4.50	First class	10.00	4.50
Machinists:			Second class	7.50	4.50
First class	37.50	4.50	Chief steward	40.00	....
Second class	17.50	4.50			

The chief steward has to provide a cook, pantryman, and an ordinary steward and stewardess.

THOS. E. HEENAN,
Consul.

ODESSA, *August 16, 1894.*

RIGA.

There are no shipbuilding yards for seagoing steamships in the district of Riga. For the few foreign-built freight steamers belonging to this port, the following are the wages paid per month:

Description.	Wages.	Description.	Wages.
Seamen:		Trimmers	$7.50
Able	$11.00	Deck hands	$3.00 to 4.00
Ordinary	$8.00 to 9.00	Carpenters	11.00
First engineer	45.00 to 50.00	Stewards	12.50
Firemen	10.00		

N. P. A. BORNHOLDT,
Consul.

RIGA, *June 22, 1894.*

UNITED KINGDOM.

ENGLAND.

The wages per week of the men employed in the yard of the only firm building ocean steamships in Liverpool are:

Description.	Wages.		Description.	Wages.	
	s. d.			*s. d.*	
Pattern-makers	35 0	$8.51	Joiners	35 0	$8.51
Machinists	33 0	8.02	Fitters	33 0	5.59
Boiler-makers	35 6	8.63	Riveters	32 6	7.90
Pipe-fitters	35 0	8.51	Calkers	32 6	7.90
Carpenters	37 6	9.11	Painters	33 0	8.02
Drillers:			Smiths	38 6	9.36
Machine	26 0	6.32	Laborers	20 0	4.86
Hand	22 0	5.34			

JAMES E. NEAL,
Consul.

LIVERPOOL, *June 19, 1894.*

In answer to the Department circular calling for information respecting the wages paid in the Newcastle district—one of the most important shipbuilding districts in Great Britain—and also the wages of persons employed in vessels sailing out of the ports of the Tyne, I have the satisfaction to be able to communicate the following, obtained from the most reliable and official sources:

Weekly wages paid at shipbuilding yards on the Tyne.

Description.	Wages.		Description.	Wages.	
	s. d. *s. d.*		Riveters:	*s. d.* *s. d.*	
Pattern-makers	33 6 to 34 6	$8.14 to $8.38	In boiler shops	34 0	$8.26
Machinists	18 0 to 28 6	4.38 to 6.94	In shipyards	32 0	7.78
Angle smiths	34 6 to 36 6	8.38 to 8.86	Calkers:		
Boiler-makers:*			In boiler shops	34 0	8.26
Platers—			In shipyards	32 0	7.78
Heavy	37 0	8.98	Painters:		
Light	35 0	8.50	In engine works	29 0 to 31 0	$7.06 to 7.54
Riveters	34 0	8.26	In shipyards	31 0	7.54
Calkers	34 0	8.26	Furnace men	20 0 to 25 0	4.86 to 6.08
Holders-up	27 0 to 28 0	6.58 to 6.82	Sheet-iron workers and tinsmiths	33 0	8.02
Plumbers and pipe-fitters	33 0	8.02	Coppersmiths	32 6 to 33 6	7.90 to 8.14
Carpenters	36 0	8.74	Molders:		
Joiners	35 0	8.50	Iron	32 6 to 33 6	7.90 to 8.14
Drillers:			Brass	31 6 to 34 6	7.76 to 8.38
Hand	20 6 to 26 0	4.99 to 6.32	Laborers	18 0 to 21 6	4.39 to 5.23
Machine	19 6 to 27 0	4.75 to 6.56			
Fitters-up	31.6	7.66			

* In shipyards, boiler-makers work by the piece.

The hours of labor are fifty-three per week in engine works and fifty-four per week in shipyards, except for fitters.

The steamships are built at present exclusively of steel.

Monthly wages of crews.

Description.	Mediterranean and Black Sea.		American and North Atlantic.		India and South Atlantic.	Coasting.
	Freight steamers.	Oil in bulk.	Freight steamers.	Oil in bulk.	Freight steamers.	
Officers:						
First	$38.93	$48.66	*$46.23	$48.66	$48.66	...
Second	31.63	36.50	31.63	38.93	34.06	...
Third	26.76	31.63	27.98	30.42	25.55	...
Carpenters	29.20	29.20	26.76	26.76	29.20	...
Boatswains	24.33	26.76	23.11	26.76	23.11	...
Stewards	29.20	34.06	26.76	34.06	29.20	...
Seamen:						
Able	19.46	19.46	19.46	19.46	...	†$6.83 to $7.31
Ordinary	9.73	14.60	...	...	...	...
Deck hands‡	7.30	...	...	...	...	...
Engineers:						
First	68.12	§82.72	77.86	97.32	72.99	†15.82
Second	51.19	61.15	53.53	68.12	54.75	†10.95
Third	31.63	43.80	38.93	48.66	35.28	...
Fourth	30.42	38.93	30.42	38.93	30.42	...
Donkey men	24.33	26.76	24.33	24.33	...	...
Pump men (in oil steamers)	19.46	19.46	19.46	19.46	19.46	...
Firemen and trimmers	19.46	19.46	19.46	19.46	19.46	...
Engineer's steward	9.73	9.73	7.30	7.30	9.73	...

* Average; the wages run from $43.79 to $48.60.

† Per week.

‡ Steamers do not carry deck hands; sailing ships carry boys who are called deck hands.

§ Average; the wages run from $77.86 to $97.32.

The above rates apply to all vessels on the described voyages, whether transient or regular traders.

WM. S. CAMPBELL,
Consul.

NEWCASTLE, *June 25, 1894.*

The following are the weekly wages paid in the Sunderland yards:

Description.	Wages.	Description.	Wages.
Pattern-makers	$8.26	Fitters-up	$7.65
Machinists	4.98 to 6.80	Riveters	7.29
Boiler-makers:		Calkers	6.44
Platers	9.11	Painters	8.14
Riveters	8,26	Furnace men	6.56
Plumbers	8.02	Sheet-iron workers	7.65
Pipe-fitters	7.65	Coppersmiths	7.65
Carpenters	8.63	Molders (iron and brass)	7.65
Joiners	8.14	Laborers	4.86
Drillers	5.95		

The hours of labor are fifty-three per week, and employment averages about fifty weeks in the year. In two yards in this district, the working week consists of forty-eight hours only, while the wages paid are about the same as are paid generally for the longer week, so that the men under the eight hours per day system have thus a much higher rate per hour than the average.

Steamships are now invariably built of steel.

Monthly wages of crews.

Description.	Wages.	Description.	Wages.
Seamen:		Joiners	$19.46
Able	$19.46	Engineers:	
Ordinary	$12.16 to 14.60	Chief	74.20
Deck hands	19.46	Second	53.53
Carpenters	29.20 to 31.63	Third	34.06
Stewards	29.20 to 34.06	Fourth	30.41
Engineer's stewards	7.29 to 12.16		

These particulars apply only to tramp or freight steamers. No ocean mail or passenger boats trade from or to this port.

THOS. A. HORAN,
Consular Agent.

SUNDERLAND, *June 20, 1894.*

IRELAND.

The shipbuilding firm of Messrs. Harland & Wolff, situated in this city, is one of the largest, if not the largest, in the Kingdom. The plant is situated in a part of the city known as Queen's Island. The firm builds steel sailing vessels and steamers almost exclusively, but an occasional order is taken for composite work. All the White Star liners have been turned out in these yards. They employ about 7,000 men and boys, who are at work, on an average, fifty weeks in the year. The working hours are fifty-four per week. Messrs. Harland & Wolff have kindly supplied me with the following list of wages paid to their workmen in the various departments:

Wages paid in shipyard.

Description.	Wages.	Description.	Wages.
Platers	$8.26	Fitters	$7.78
Helpers	3.89	Assistants	3.77
Riveters	7.53	Shipwrights	8.14
Calkers	7.53	Boat-builders	6.80
Drillers	3.77	Laborers	3.77
Holders-up	6.07	Riggers	7.17
Boys	2.19	Sawyers	6.56
Joiners	8.20	Sailmakers	7.53
Smiths	7.78	Plumbers	8.75
Finishers	7.05	Assistants	2.67
Bolt-makers	7.90	Polishers	7.29
Strikers	4.74	Upholsters	8.26
Pattern-makers	8.02		

Wages paid in engine works.

Description.	Wages.	Description.	Wages.
Joiners	$8.20	Drillers	$4.86
Pattern-makers	8.02	Laborers	3.77
Laborers	3.77	Smiths	7.78
Fitters	7.78	Strikers	4.62
Brass-finishers	7.78	Platers	$8.87 to 9.11
Turners	8.02	Riveters	8.02
Machine men	$4.38 to 8.75	Boiler shop:	
Fitters' assistants	3.77	Smiths	7.05
Iron molders	7.78	Strikers	4.37
Foundry dressers	4.86	Hand drillers	4.86
Iron-foundry laborers	4.01	Machine drillers	5.10
Brass-molders	7.78	Planers	5.10
Brass foundry:		Helpers	3.77
Dressers	4.86	Holders-up	5.95
Laborers	4.01		

Messrs. Workman & Clarke are another large shipbuilding firm, and the only other one in this city, or, I believe, in Ireland. Their plant is situated on the opposite side of the Belfast Lough from Messrs. Harland & Wolff, at a point known as Spencer Basin. This firm builds both steel and iron sailing vessels and steamships. Some of their larger steamships are sent to the Clyde to be fitted with engines. They employ constantly over 1,000 people, the hours of labor being fifty-four per week. The firm has very courteously supplied me with a list of wages paid to their workmen, which is as follows:

Description.	Wages.	Description.	Wages.
Riveters	$7.54	Laborers	$3.40 to $3.89
Joiners	8.21	Smiths	6.08 to 8.88
Pattern-makers	8.27	Carpenters	4.13 to 8.15
Platers	8.27	Riggers	7.18 to 7.42
Calkers	7.54	Painters	8.21 to 8.76
Drillers	$3.89 to 4.38	Red-leaders	3.89
Fitters	6.57 to 8.03	Boat-builders	7.54

There are two transatlantic freight lines of steamships sailing from this port. The Lord line has regular sailings to Baltimore, besides occasional sailings eastward through the Mediterranean. Going west from this port, the wages paid per month are as follows:

Description.	Wages.	Description.	Wages.
First officer	$53.53	Donkey men	$24.33
Second officer	38.93	Steward	29.20
Third officer	26.76	Assistant steward	14.60
Chief engineer	82.73	Second assistant steward	9.73
Second engineer	48.66	Seamen:	
Third engineer	34.06	Able	19.47
Boatswain	24.33	Ordinary	12.16
Carpenter	29.20	Firemen and trimmers	20.67

On an eastward trip, able seamen are paid $18.25, and ordinary seamen $10.94. The remainder of the crew are paid the same as on a westward voyage.

The Head line pays the same wages westward as the Lord line. This line has periodical sailings up the Baltic. They pay firemen on this route $18.25, able seamen $17.03, and ordinary seamen $9.73 to $12.16, the remainder of the crew being paid the same as westward.

On "tramp" steamers (I am so informed by the shipping commissioner) the average wages per month are:

Description.	Wages.	Description.	Wages.
First officer	$43.80	Boatswain	$19.46
Second officer	29.20	Donkey men	20.67
Chief engineer	68.13	Seamen:	
Second engineer	48.66	Able	17.03
Carpenters	26.76	Ordinary	9.73
Steward	29.20	Firemen	18.25
Cook	23.11	Mess steward	9.73

As a rule, the crew is shipped for the voyage and return at a certain rate of wages per month, the contract always ending when the final port of discharge in the United Kingdom is reached. In case of "tramp" steamers, the crew is shipped for the "run" only.

There are regular daily sailings of passenger steamers between this port and Liverpool, Glasgow, Fleetwood, Barrow and Ardrossan. The wages paid on each of these lines are generally uniform. The average weekly wages are:

Description.	Wages.	Description.	Wages.
First officer	$12.16	Steward	$6.08
Second officer	8.52	Second steward	3.89
Engineer	16.06	Third steward	2.43
Second engineer	10.70	Cook	5.35
Carpenter	9.73	Stewardess	3.04
Winchmen, firemen, and oilers	7.30	Able seamen	7.06
Trimmers	7.06	Boys	1.21

The steward is paid only a nominal salary, as he is allowed to take the cabin on his own responsibility, paying the company a small rental and catering for the passengers himself. I am informed that the stewards on some of the best steamers make from $2,500 to $3,000 per annum.

JAMES B. TANEY.
Consul.

BELFAST, *June 7, 1894.*

SCOTLAND.

The average wages paid per hour by steamship builders on the Clyde are as follows:

Description.	Wages.		Description.	Wages.	
	Pence.			*Pence.*	
Engineers (general)	6½	$0.13	Calkers	9	$0.18
Pattern-makers	6¾	.13½	Painters	7½	.15
Machinists (in engineer shop)	6	.12	Furnace men	6	.12
Boiler-makers	8	.16	Sheet-iron workers (general)	6½	.13
Plumbers	8	.16	Coppersmiths	7¾	.15½
Pipe-fitters	6¾	.13½	Molders:		
Shipwrights	7½	.15	Iron	7½	.15
Ship-joiners	7¼	.14½	Brass	8	.16
Drillers	8½	.17	Blacksmiths	7½	.15
Fitters-up	9¼	.18½	Laborers	5	.10
Riveters	10	.20	Frame-setters	8½	.17

The hours of labor are fifty-four per week for about forty-eight weeks in the year.

The ships are nearly all constructed of steel. Iron vessels are now as rarely built here as wooden ships.

Several of the trades mentioned are employed by the piece. These include the riveters, platers, frame-setters, fitters, and calkers. The riveters work in squads, consisting of two riveters, a holder-on and a rivet boy, and they are paid at the rate of so much per hundred rivets put in. The larger the vessel, the higher the rate, and special prices are paid for riveting keels and stringer plates. A steamer of over 5,000 tons commands extra wages. On ordinary vessels, good squads (two riveters, a holder-up, and a rivet boy) will make at present about 27*s.* 6*d.* ($6.68) per day, but the average for government work is far above this. The piece men are sometimes irregular in their employment, and, if overtime is excluded, do not work more than five days per week.

The shipwrights have a standard wage of 7½*d.* (15 cents) per hour, but the joiners, blacksmiths, and engineers have what is known as a sliding scale.

In the case of engineers, the pay varies from 6*d.* (12 cents) to 6¾*d.* (13½ cents) per hour, blacksmiths from 6*d.* (12 cents) to 8*d.* (16 cents) per hour, and ship-joiners from 6½*d.* to 7½*d.* (12 to 15 cents) per hour.

It may be mentioned that in several of the yards, more particularly that of Messrs. J. & G. Thomson, where there are now building one first-class line-of-battle ship, a first-class cruiser, and three torpedo boats, a superior class of riveters can make about 15*s.* ($3.65) per day each.

The crews are signed for, and paid at the end of, each voyage, being paid perhaps £1 ($4.86) at the time of signing.

The monthly wages of seamen on ocean steamships are:

Description.	Wages.		
	£ s. d.	£ s. d.	
Able seamen		4 0 0	$19.46
Ordinary seamen and deck hands		2 0 0	9.73
Engineers:			
On passenger steamers	7 0 0 to	15 0 0	$34.06 to 72.99
On freight steamers	7 0 0 to	16 0 0	34.06 to 77.86
On "tramp" steamers	11 7 0 to	15 5 0	55.23 to 74.20
Firemen		4 0 0	19.46
Trimmers		3 0 0	14.59
Carpenters	6 0 0 to	6 5 0	29.19 to 30.40
On passenger steamers	6 0 0 to	6 10 0	29.19 to 31.62
On freight and "tramp" steamers		6 0 0	29.19
Stevedores:			
On passenger and freight steamers	2 10 0 to	8 0 0	12.16 to 39.93
On "tramp" steamers	2 10 0 to	6 0 0	12.16 to 29.19
Boatswains on passenger steamers		4 15 0	23.11
Boatswain's mate		4 5 0	20.67

ALLEN B. MORSE,
Consul.

GLASGOW, *September 28, 1894.*

The shipbuilding works in this district (Leith) are not important. The wages paid steamship-builders per week are:

Description.	Wages.		Description.	Wages.	
	s. d.			s. d.	
Pattern-makers	30 4½	$7.39	Fitters	29 3	$7.11⅔
Machinists	30 0	7.30	Riveters	31 6	7.66½
Boiler-makers	34 0	8.27	Calkers	31 6	7.66½
Carpenters	33 9	8.21	Painters	33 9	8.21
Joiners	33 9	8.21	Furnace men	19 0	4.62
Drillers	18 0	4.38	Sheet-iron workers	30 0	7.30

The rates of wages for coppersmiths, molders, and laborers were not reported.

The hours of labor are fifty-four per week, and the weeks of labor are fifty-two per year. Steamships are built both of iron and steel.

Wages per month of crews.

Description.	Wages.		Description.	Wages.	
Seamen:	£ s.		Mates:	£ s.	
Able	4 0	$19.46	First	9 10	$46.22
Ordinary	2 10	12.16	Second	6 10	31.63
Engineers:			Third	5 10	26.76
First	15 5	74.22	Firemen	4 5	20.68
Second	11 0	53.53	Trimmers	4 5	20.68
Third	7 0	34.06	Carpenters	6 0	29.20
Fourth	6 5	31.22	Mess stewards	2 10	12.16

The wages of crews of "tramp" steamers do not differ materially from the above.

F. H. UNDERWOOD,
Consul.

EDINBURGH, *June 21, 1894.*

RAILWAYS IN EUROPE.

FRANCE.*

About seventy years ago, the mining companies of the department of the Loire conceived the idea of constructing a railway between St. Etienne and the little town of Andrézieux, lying on the river which gives its name to the department. The distance between the two points is 11¼ miles. This road was opened for the transportation of the products of the mines in 1828, the year which witnessed the laying of the first rail of the Baltimore and Ohio Railroad.

In 1830, a year notable in the United States for the completion of the first section of 15 miles of the Baltimore and Ohio Railroad, between Baltimore and Ellicott's Mills, the first passenger and freight line built in France was opened between St. Etienne and Lyons, a distance of 35 miles. The engineers were the brothers Séguin. Four years later, a third line, between St. Etienne and Roanne, a distance of 51 miles, was completed. The line between St. Etienne and Andrézieux was constructed at a cost of 115,000 francs per kilometer ($36,026 per mile), that between St. Etienne and Lyons at a cost of 254,000 francs per kilometer ($79,465 per mile), and the line connecting St. Etienne and Roanne at a cost of 90,000 francs per kilometer ($23,913 per mile).

From these roads, dates the history of the French railways. One of the engineers of the road between St. Etienne and Lyons, Marc Séguin, struggling with the problem of a sufficient production of steam, invented the tubular boiler. This solved the difficulty of obtaining a large heating surface, but, when it was put into practical operation, Séguin found that the tubular boiler was defective by reason of the insufficiency of the draft afforded by the chimney. It was, however, the combination of this principle with his own invention of the steam blast that enabled Stephenson to produce the famous locomotive "Rocket."

It is impossible to trace, however briefly, the history of French railways without being impressed by the intimate relations of the Government with the system. From the very commencement, there has prevailed the idea of ultimate State ownership. The fact that, after the lapse of two generations, with the exception of one line, the roads of the present day are still the property of private corporations, has resulted rather from the exigencies of politics or finance than from any change in popular opinion or administrative theory. But while State ownership is still a matter for the future, Government supervision is powerful—everywhere felt—and finds no parallel in the legislation of the United States, the provisions of the interstate commerce act bearing no analogy to the search light of French Government inspection.

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*Consul Whiley, in transmitting this report, acknowledges his indebtedness to the Minister of Public Works for placing official publications at his disposal, and to Vice-Consul Burroughs for valuable assistance in its preparation.

In France, the notion of the right and duty of State regulation of railroads has not been a slow growth, developed by the gradual realization of the great public interests at stake. The idea is coexistent with the system itself. In the United States, the State constitutions are examined to see whether they contain anything prohibitive of proposed legislation, while the federal Constitution is examined to ascertain whether a particular power has been conferred upon Congress. The average Frenchman concerns himself little with either the limitations prescribed or the powers conferred by the organic law of his country; the simple question with him is, whether his Government is doing as much as it ought to do for him, his family, his business, and everything that is his. So, in addition to Government control, we find here, strongly developed, the features of Government subsidies, guaranties of interest, and, in recent years, even guaranties of dividends.

It will be noted that the first impulse to railroad construction in France came from the mining centers, and, for a number of years, failed to reach other parts of the country. In 1848, only 1,137 miles had been opened, as against 5,996 miles in the United States. Three years after that date the building of railroads largely increased, and the activity lasted until 1857. Then began a course of somewhat tentative legislation, which did not assume a definite form until 1878.

PRESENT RAILWAY ADMINISTRATION.

At the beginning of the year 1878, on the proposition of the Minister of Public Works, the Government resolved to encourage as much as possible the construction of new railways and the development of those already existing. To this end, district committees were formed to study and classify the lines which should be considered useful for the defence of the country, the establishment of more direct relations between the large railway systems, the closer communication of centers of industrial importance, and the opening up of many hitherto neglected districts.

This new system of railways took the name of "complementary system," and was presented to the Chambers, where, after some long discussions, it was voted in the summer of 1879. Nearly 9,000 kilometers (5,593 miles) of railway lines were in this manner proposed, involving an outlay of 4,000,000,000 francs ($772,000,000). Immediately afterwards the question arose as to the manner of executing the work. Some considered that it should be intrusted to the companies already existing; others were in favor of the creation of new companies, while the majority of the deputies expressed the opinion that the State should construct all the new roads, and thus have complete control over the tariff. The legislative committee on the subject leaned to this last idea, but a vast petition against the project was circulated throughout the country by the chambers of commerce and presented to the Government, which, in face of such opposition, thought better to depart from the original design and enter into a contract with the existing large companies.

By the terms of these contracts, the larger companies received new and important concessions of lines to construct, and a certain number of ill-paying roads were incorporated into their system. The companies agreed to contribute a sum of 25,000 francs ($4,825) per kilometer (0.6214 mile) for any new roads for the rolling stock, materials, and furniture of stations, while the expenses of the roadbed were to be borne by the State. The companies engaged also to advance the necessary amount, and in this way it has been estimated that the companies contributed 607,000,000 francs ($117,151,000).

The agreement between the State and the companies, signed in 1883, has guarantied and reserved to the shareholders of each of the contracting companies a minimum dividend, fixed as follows per share: Nord, 54.10 francs; ($10.44); Paris, Lyons, and Mediterranean, 55 francs ($10.62); Orleans, 36 francs ($6.95); Midi, 50 francs ($9.65); Est, 35.50 francs ($6.85); Ouest, 38.57 francs ($7.45). When the receipts are insufficient for this dividend, the State contributes the difference. When, in the succeeding years, the net revenue exceeds the dividend reserved to the shareholders, the excess goes to the State. When the receipts are sufficient to cover all the working expenses and to insure the guarantied dividend, and when all the moneys advanced by the State have been reimbursed, with interest, the excess of the net revenue belongs to the shareholders up to the following sum fixed for each share: Nord, 87.50 francs ($16.89); Paris, Lyons, and Mediterranean, 75 francs ($14.48); Orleans, 82 francs ($15.83); Midi, 60 francs ($11.58); Est, 50.50 francs ($9.75); Ouest, 50 francs ($9.65).

When the net revenue will permit the distribution to the shareholders of a larger sum than that mentioned above for each company, two-thirds of the excess goes to the State and one-third to the shareholders. In about the year 1950, the charters of the several companies will expire, when all will revert to the State. In the meantime, after the expiration of the first fifteen years following the concession, the Government has the right to redeem any of the lines. To regulate the redemption price, the net annual income of the company during the seven previous years serves as a basis. Of this period, the net product of the two most unfavorable years is deducted, and the average net product of the remaining five years is computed. The result forms the annuity to be paid to the company during each of the years, to run until the expiration of the charter.

The company is further reimbursed in the three months following for all the expenses of the rolling stock, material, and accessories of all kinds, according to the estimate furnished by experts.

STATE CONTROL.

The State supervision over the seven large railway systems in France is exercised under the authority of the Minister of Public Works by one inspector-general as director, having under him one chief engineer intrusted with the supervision of the roads (repairs, improvements, etc.), one engineer having charge of the technical working, one or two chief inspectors, whose business it is to look after the commercial working (*exploitation commerciale*), having under their control engineers, inspectors, and *commissaires de surveillance*.

The *commissaires de surveillance* are in reality officers of the *police judiciare*, and as such are under the supervision of the *procureur de la republique*. They are attached to the principal stations. Their duty is to look after the circulation of public and private vehicles in the yards of the stations, the admission of the public to the waiting rooms and to the platform, the working of the switches, the lighting of the stations and level crossings, the making up of trains and their arrival and departure, the reporting of lost time, the working of signals, the posting up of time bills, the disinfection of wagons used for the transport of live stock, etc.

In case of accident, these *commissaires* draw up a report which they transmit to the Government, and complaints, preferred by the public, in reference to the conduct of the servants of the company, the running of the trains, the condition of the material, excessive charges, etc., are made to them.

The expenses of the control are paid by each company, which is obliged to send to the public treasury, every year, a sum of 120 francs per kilometer ($39.31 per mile) worked, and a sum of 50 francs per kilometer ($16.36) of the lines not at the time ready for traffic.

CONSTRUCTION.

The construction of the French railroads differs but slightly from most of the roads in the United States. The roadbed is made of ballast consisting of coarse gravel and broken stone, carefully sifted. The ties are 8 feet 3 inches long, 8 inches wide, and 5 inches thick. They are made of oak, hazel, spruce, or pine. The oak is incontestably superior and more expensive, but lasts longer (fifteen years); the others are cheaper, but rot quickly. To increase the durability of the cheaper ties, they are previously coated with a solution of sulphate of copper, sulphate of iron, or creosote. Thus prepared, they last nine or ten years. About 5,000,000 of these ties are annually used in France, and in the presence of such a consumption, competent engineers were asked to study the question of replacing the wooden ties by iron ties, but they concluded that the iron would render the road much less smooth, and that the fastenings of the rails would be easily displaced from shocks. However, in other parts of Europe—Russia, Switzerland, Germany, and Holland—iron ties are being employed on a large scale. The space between the ties varies from 30 to 43 inches.

Prior to 1869, all the rails were made of iron, and up to 1883, but little steel was used, but from that period, steel began to be substituted throughout France, the price being even lower than that of iron formerly. Each rail is from 39 feet 11 inches to 46 feet in length, whereas, when iron was used, the length did not exceed 26 feet; consequently, the joints are less numerous and the running much smoother. Fish plates are employed for the joints, and iron wedges for the chairs. The height or vertical thickness of the rail is 5.12 inches, and the lateral thickness 2.36 inches. The width between the rails is 1.46 meters (4.79 feet), which is the gauge of all European countries except Russia (1.52 meters=4.98 feet) and Spain (1.73 meters=5.68 feet).

ROLLING STOCK.

As in the United States, the locomotives of the different companies vary considerably, especially in regard to the number and position of the wheels. We may notice:

(1) Crampton engines, with driving wheels 2.3 meters (7.46 feet) in diameter. These engines run the express trains at a speed of from 70 to 100 kilometers (43.496 and 62.14 miles) an hour, but are unequal to heavy loads or steep grades.

(2) Mixed engines. The driving wheels are of greater diameter, and are coupled on each side. The Nord Railway Company employs the American type.

(3) Engines with four axles and two wheels tied.

(4) Engines with four axles and three sets of wheels tied.

(5) Engerth engines with four axles and all the wheels tied.

(6) Compound engines.

At the end of 1891, the total number of locomotives owned by the French railways was 9,636, varying in weight from 18 to 52 tons. The number with distinct tenders was 8,001, the remainder having locomotives and tenders combined.

Recently a new locomotive, of very powerful design, and moved by electricity generated on the engine, has been built by M. Heilmann. It has been tried a number of times on the Ouest railroad, both alone and with a full complement of cars, empty and loaded, with very satisfactory results, attaining a speed of 62 miles an hour. On the 9th of this month (May), the official trial was made. The engine, drawing ten cars filled with representatives of the Ministers of Commerce and Public Works, Government officials, and many others, started from Paris for Mantes, a distance of 57 kilometers (35.42 miles), timed to accomplish the trip in as many minutes. The train arrived five minutes ahead of time, and on some parts of the road the speed attained equaled 108 kilometers (over 67 miles) an hour.*

PASSENGER CARS.

It is well known that the Continental system of railway cars is quite unlike that of the United States. There are three classes (four in Germany)—first, second, and third. Each carriage is divided into four or five compartments, and built to accommodate ten persons in each compartment.

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* For description of the Heilmann locomotive, see CONSULAR REPORTS No. 165 (June, 1894), p. 198.

These compartments do not communicate with each other, but are comfortably cushioned, according to class. They are lighted, for the most part, with gas, but recently, on the express trains, electricity has been adopted, and it is believed that eventually this system will be general. At each end of the compartment is an alarm bell communicating with the conductor of the train.

The merits and demerits of this system of separate compartments have been the theme of so many discussions that it will be scarcely necessary to enlarge upon them in this report, further than to say that the consensus of opinion now seems to be that the disadvantages far outweigh the advantages. The Paris, Lyons, and Mediterranean Company has recently constructed fifty first-class carriages *à couloir*—that is to say, each compartment opens out upon a passageway running the whole length of one side of the car. This enables the passenger to relieve the tedium of a long trip by walking up and down, and also affords him an extended view of the country through which he is passing. Some second-class cars have been constructed in like manner by the same company, and it is believed that, eventually, even the third-class cars will be built in the same way.

In 1891, the total number of passenger cars was 22,792, divided as follows:

Class.	Number.	Seats.
First class	4,407	25
Second class	5,717	47
Third class	10,359	48
Mixed classes	2,309	40

Freight cars: Luggage cars, 11,468; freight cars, 247,482; average capacity, 9.7 tons; cars furnished with continuous brakes, 33,669.

SAFEGUARDS, SIGNALS, ETC.

The block system is in use on most of the lines, and on single-track roads, electric bells are placed at stations to announce the departure from the preceding station of each train, to stop a train already en route, to call for help in case of accident, to give the signal of alarm when two trains are approaching each other from opposite points, etc. In 1885, a ministerial decree instituted a uniform system of signals, which came into operation in the course of the following year. The methods adopted differ but slightly from those in the United States. Red, green, and white are the colors for flags and lights, while the fixed signals consist of semaphores, disks, indicators, electric bells, etc. The pocket whistle of the station master and the horn of the guard, as starting signals, remind the American traveler that he is away from home.

BRAKES.

The brakes in use are those of Westinghouse, Wenger, and Smith. The first named is now generally used all over Europe and the United States, and needs no description. That of Wenger, a French engineer, rests on the same principle, with the difference that the triple valve is omitted. It is employed on the Orleans Railway and the State Railway. A pump on the engine sends the compressed air through two distinct tubes running the whole length of the train, and separately attached to the brake cylinder situated beneath each car. The cylinder consists of two pistons, which, coming together, tighten the brakes—the reverse of the Westinghouse system. In the cylinder, there is a middle chamber formed by the interval between the two pistons and a chamber at each extremity. The end chambers communicate with the tightening tubes, and the middle chamber with the slackening pipes. To put the brake on, the driver sends the compressed air into the end chambers, by which the pistons are propelled toward each other and the brake blocks press against the wheels.

The Smith brake is a vacuum brake, and is in use on the Nord Railway.

TAXES.

Under the law passed in 1855, the railway companies were obliged to pay to the Government a tax representing 10 per cent of the price of the traveler's ticket, and of the receipts from all baggage or goods transported by passenger trains. In 1871, an additional tax of 10 per cent was imposed by the Government, to contribute to the expenses of the Franco-German war. This tax was repealed in 1893.

In 1856, the revenue of the Government derived from railroad taxation amounted to 15,000,000 francs ($2,895,000), against 95,000,000 francs ($17,563,000) in 1891.

RATES.

In France, the tariff, both for goods and passengers, has fluctuated much less than in the United States. It will be seen that the passenger rates are lower and the freight rates higher than with us. In studying the following figures, it should be borne in mind that a kilometer equals 0.62138 mile, 8 kilometers being equivalent to 5 miles. The rates are given in French currency, and it is scarcely necessary to state that a franc is equivalent to 19.3 cents, and that a centime is the hundredth part of a franc.

PASSENGER RATES.

First class, single tickets, 11.2 centimes per kilometer (about 3.6 cents per mile); second class, 7.56 centimes per kilometer (2.6 cents per mile); third class, 4.928 centimes per kilometer (1.6 cents per mile). Soldiers and naval men pay only one-fourth of the fare, and children under seven years are charged half price, but the smallest sum that can be charged is 30 centimes (5.8 cents)—that is to say, it costs as much to go 1 mile as to go 6 miles.

Every passenger is allowed 60 pounds of baggage free; over this amount, he has to pay in proportion to the distance traveled. The sum of 10 centimes (two cents) is charged for registering or checking the baggage. Goods sent by passenger trains are taxed at the rate of 35 centimes per ton per kilometer (10.8 cents per mile). However, on long distances—1,000 kilometers and over—a reduction is made of one-third if the weight does not exceed 40 kilograms (88.18 pounds); dogs pay 1.68 centimes per kilometer (5.2 mills per mile), and horses 16 centimes (5 cents per mile).

Circular tickets, good for thirty days, are issued at reduced rates by all the companies, with "stop-off" privileges at any time within the thirty days and at any place within the circle. Besides these tickets, cards are issued for 360 francs ($69.48) yearly. The holder of these will only have to pay, in addition to the price of the card, half price to any place he may be going.

FREIGHT CHARGES.

All goods weighing under 40 kilograms (88.18 pounds) are subject to a charge of 25 centimes per ton per kilometer (8.5 cents per mile); above that weight, and up to 3,000 kilograms (6,614 pounds), the charge is 40 centimes per ton per kilometer (13.6 cents per mile); from 3,000 to 20,000 kilograms (40,492 pounds) the tariff is doubled. The following articles are rated at 6 centimes per ton per kilometer (2.03 cents per mile): Anthracite, charcoal, firewood, wood for house construction, coke, coal, empty barrels, laths, lime, planks, sea salt, and uncleft timber. These rates differ slightly on different lines.

The charges for live stock per kilometer are as follows: Cows, horses, donkeys, and mules, 10 centimes (3.4 cents per mile); calves and pigs, 4 centimes (1.56 per mile); sheep and goats, 2 centimes (6.8 mills per mile).

The charges for carriages per kilometer are: Two-wheeled, 25 centimes (8.5 cents per mile); four-wheeled, 32 centimes (10 cents per mile).

PENSION FUND.

All the railway companies contribute more or less to the pension fund for their employés, but in most instances, a percentage is retained from the salaries to enlarge this fund. The Nord Railway retains 3 per cent on each individual's salary, which sum becomes a part of the fund in order to insure for every employé an old-age pension, in addition to that which the company allows him. The employé whose salary is under 1,500 francs ($289.50) is not subject to this tax, it being paid by the company itself. The amount contributed by this company in 1891 was 3,247,322 francs ($636,733), and the amount paid out in pensions and temporary assistance was 2,185,827 francs ($421,865). The financial condition of the fund was quoted at 16,806,678 francs ($3,243,689), with a membership of 19,591, and the number of recipients was 6,288.

The Compagnies de l'Est and d'Orleans also retain 3 per cent from the salaries of their employés, but contribute monthly a sum equivalent to 12 per cent of the amount of salaries subjected to the tax, besides several other allowances. The total amount contributed by the Compagnie de l'Est in 1891 was 7,208,590 francs ($1,391,258); paid out in pensions, 4,185,008 francs ($807,707); financial condition of the fund, 15,460,246 francs ($2,983,827); membership, 19,070; pensioners, 5,721.

The Compagnie d'Orleans has no pension fund, properly so-called, but provides, nevertheless, for its employés, a certain sum being provided out of the profits of each year, of which the equivalent is contributed by the employés.

The Compagnie de l'Ouest contributed in 1891 3,145,317 francs ($607,085), and paid out 2,888,610 francs ($557,502). The fund amounted to 38,566,460 francs ($7,443,268), with a membership of 24,576 and 4,532 pensioners.

The Paris, Lyons, and Mediterranean, the richest and most important company, contributed during the same year, 4,264,269 francs ($823,004), while the employés subscribed 2,824,684 francs ($545,164). The amount paid out in pensions and assistance was 7,483,054 francs ($1,444,229). The fund amounts to 99,453,309 francs ($19,194,498), with a membership of 41,655 and 9,234 recipients.

In addition to, and independent of, the system adopted by the railway companies to provide a pension fund for their employés, there exists among the men themselves a large society called the "Association Fraternelle des Employés et Ouvriers des Chemins de Fer Français." This association has a membership of nearly 80,000 and a capital of over 12,000,000 francs ($2,316,000). Its object is to furnish retiring pensions to its members—continuing in case of death to the widow and children—and to afford timely help in case of sickness. There is also a society for the education, protection, and starting in employment of the orphans of railway men.

THE PARIS, LYONS, AND MEDITERRANEAN RAILWAY.

It may afford, perhaps, a clearer idea of the practical working of the French roads to select one of the most important of the eight principal lines as an illustration of the whole system. For this purpose, probably the best line that could be chosen is the Paris, Lyons, and Mediterranean Railway, familiarly known as the "P. L. M."

The whole length of this road is 12,872 kilometers (8,000 miles), almost entirely (89 per cent) composed of steel rails. The rails are 12 meters long (39.37 feet), weighing 47 kilograms (104.12 pounds) per meter, each joint being fish-plated on both sides. The locomotives are of a very powerful type, but the company is devising means of perfecting its machines, both as to speed and to lightness, and already about forty new engines of quite a new type (short-winged tubes) have been turned out of their works, permitting a considerable increase of speed. The number of locomotives is 2,443; passenger cars, 5,339; freight cars, 87,402.

Status of the company in 1892.—Length of rail in France, 8,344 kilometers (5,185 miles); receipts, 357,725,090 francs ($69,410,943); receipts per kilometer, 42,872 francs ($8,274); expenses, 173,381,556 francs ($33,462,640); expenses per kilometer, 20,779 francs ($4,010); net profits, 184,343,534 francs ($35,578,292).

Sources of receipts.—Passenger traffic and freight, 136,667,231 francs ($26,376,780); slow freight, 214,442,744 francs ($41,387,496); receipts from property of the company, 6,655,112 francs ($1,284,437); number of passengers carried, 47,895,652.

The proportion of passengers for the three classes were:

Class.	Passengers.		Receipts.		
	Percentage.	Number.	Percentage.	Amount.	
				Francs.	
First	5.6	2,663,979	26	26,196,859	$5,055,994
Second	11.3	5,424,662	21	21,482,294	4,146,083
Third	83.1	39,807,011	53	54,764,070	10,569,466

Freight.—The number of live animals transported during the year was 1,574,225, producing 3,352,942 francs ($647,118); other freight exceeded 19,555,000 tons, producing 202,789,008 francs ($39,138,279). The average receipts per ton were 10.37 francs ($2).

Fuel.—The fuel for the engines consists of slack or fine coal, and *briquettes* (fine dust coal and tar molded in the form of bricks). The first forms two-thirds of the entire fuel, and the cost per ton is 20.26 francs ($3.91).

Salaries.—All the employés enter the service of the company at 3 francs (57.9 cents) a day, but the salary is increased according to grade. A considerable number of men work for 2.50 francs (48.25 cents) a day as auxiliaries; they are not permanently employed, but are taken on as they are needed.

Employés.		Salaries.	
		Francs.	
Station masters	per annum	2,000 to 10,000.00	$386.00 to $1,930.00
Ticket agents	do	1,500 to 1,800.00	289.50 to 347.40
Clerks	do	1,200 to 1,300.00	231.60 to 250.90
Telegraphers	do	1,500.00	289.50
Engine drivers:			
First grade*	per month	250.00	49.25
Second grade*	do	225.00	43.43
Third grade*	do	200.00	38.60
Fourth grade*	do	175.00	33.76
Stokers:			
First grade	do	150.00	28.95
Second grade	do	137.50	26.53
Third grade	do	125.00	23.92
Fitters	per day	4.50	.868
Cleaners	do	3.25	.627
Coal men	do	4.00	.773
Visitors	per annum	1,350.00	260.55
Switchmen	do	1,350.00	260.55
Conductors	do	1,200 to 2,400.00	231.60 to 463.20

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* Besides the fixed salary, the engine-drivers are allowed 3 francs (57.9 cents) for every day that they have to "sleep out," and they can also make about 60 francs ($11.58) per month in economizing the fuel and the oi.

Fines.—The engine-driver is subjected to certain fines for absence from his post and for lost time. In the first case, he is fined 4 francs (77.2 cents) for the first offense, 8 francs ($1.54) for the second, and reduced in grade for the third. In the second, he is fined 2 cents for each minute he is late.

THE STATE RAILWAY.

At the commencement of the year 1876, six railway companies in the center and south of France found it impossible to meet their engagements, and in order to protect the interests of the shareholders, the State intervened by a bill which the Minister of Public Works, in August of the same year, laid before the Chamber authorizing the purchase of these roads. The bill was rejected, but the Government persevered, and at the end of two years, a modified bill was presented by which, at an outlay of 500,000,000 francs ($99,500,000), the State would become possessor of about 2,600 kilometers (1,615 miles) of railway. This bill was voted without difficulty, thus constituting the State Railway known as the "Chemin de Fer de l'Etat."

This road, exclusive of certain branch lines originally belonging to the Ouest and Orleans companies, is 2,663 kilometers (1,654 miles) in length.

In view of the wide discussion upon the subject of State ownership, the following figures may be of interest, although from the limited character of this experiment in France they can not have the value of those that might be gathered from a study of the systems in Germany and Belgium. The statistics are taken from the official returns for the year 1891.

Rolling stock.—Locomotives, 527; passenger cars, first, second, third, and mixed classes, 185, 574, 998, and 249, respectively, making a total of 2,006; freight cars, 13,111; baggage cars, 971; grand total number of cars, 14,082.

Receipts and expenditures of the State Railway in 1891.

Description.	Amount.	
Receipts.		
From passenger trains:	*Francs.*	
From passengers	12,903,856	$2,490,444
From baggage, fish, milk, parcel post, etc	3,433,241	662,616
Total	16,337,097	3,153,060
From freight trains:		
From freight (2,850,810 tons)	19,784,683	3,818,444
Divers other receipts	966,701	186,573
Total	20,751,384	4,005,017
Grand total	37,088,481	7,158,077
Expenditures.		
Administration	8,599,967	1,659,794
Working	8,072,900	1,558,070
Rolling stock	9,325,839	1,799,887
Other expenses	17,143	3,308
Total	26,015,849	5,021,059
Total receipts	37,088,481	7,158,077
Net profits	11,072,632	2,137,018
Receipts per kilometer	7,792	1,504

GENERAL STATISTICS.

The following general statistics relative to French railways are also based upon the returns for the year 1891, as I have been unable to obtain the official figures for more recent years. In the statistics given in relation to the Paris, Lyons, and Mediterranean Railway, however, I venture to give the returns for 1892, having reason to regard the sources as reliable.

Personnel of French railways.

Description.	Number.	Description.	Number.
Directors, secretaries, etc	587	Brakemen	8,271
Office clerks	21,742	Engine-drivers and stokers	15,713
Office care takers (domestics)	763	Unclassed workmen	42,088
Station masters	6,547	Engineers, architects, foremen, etc	1,592
Ticket agents and booking-office clerks	29,118	Total	242,445
Porters, line men	111,305		
Conductors and ticket collectors	4,719		

In this total are comprised 24,014 women variously employed.

Passengers.—The number of passengers carried over the French railways in 1891 was as follows: First class, 18,542,846; second class, 88,099,493; third class, 149,029,559; total, 255,671,898, showing an increase of 15,000,000 over the preceding year.

Freight.—The freight transported on the different lines of railway amounted to 96,553,763 tons. The following are the principal subdivisions:

Description.	Quantity.	Description.	Quantity.
	Tons.		*Tons.*
Cereals and flour	8,115,849	Raw material	9,229,366
Wines and alcohol	5,800,146	Building material	11,897,435
Food in general	4,712,562	Manure	4,278,257
Iron	6,439,920	Coal and coke	28,987,171

Receipts from passenger trains.—The receipts from all sources during the year ending December 31, 1891, amounted to 458,021,622.75 francs ($88,398,173),* divided as follows: First-class passengers, 91,330,821.40 francs ($17,626,848); second-class, 115,706,420.50 francs ($22,331,339); third-class, 231,163,439.11 francs ($44,614,544); baggage, dogs, fish, milk, parcel post, etc., 92,738,215.15 francs ($17,898,475).

Receipts from freight trains.—The total receipts from this source were 693,296,414 francs ($133,806,208) or 7,106 francs ($1,371) per kilometer, furnishing an average of 6.82 francs ($1.52) per ton.

The receipts from other sources were 33,623,731 francs ($6,489,380).

Total receipts from all sources were 1,184,941,767 francs† ($228,613,761), or 34,977 francs ($6,751) per kilometer.

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* There is evidently an error either in this total for passenger receipts or in the distribution of the total among the classes, for the receipts from passengers amounts to 438,200,681 francs, and for baggage, dogs, milk, etc., 92,738,215.15 francs, making a total of 530,938,996.16 francs, being 72,917,373.41 francs more than the totals given by the consul.

† 1,257,859,141.16 ($242,766,914).

Expenditures.—The expenses for the whole railway system were 639,009,481.75 francs ($123,328,830).

The net profits were 545,932,286 francs ($95,364,932), equal to 16,115 francs ($3,110) per kilometer.

Receipts and expenditures of the eight principal railway companies in France.

Name.	Receipts.		Expenditures.	
	Francs.		*Francs.*	
Nord	188,325,112.76	$36,346,747	93,622,742.58	$18,069,189
Est	144,220,778.48	27,834,610	90,091,687.03	17,387,696
Ouest	147,734,968.31	28,512,849	87,089,143.08	16,808,205
Paris-Orleans	172,689,837.32	33,329,138	87,880,894.38	16,961,012
Paris, Lyons, and Mediterranean	365,809,608.40	70,601,254	173,384,410.10	33,463,191
Midi	90,412,834.41	17,449,677	47,504,841.37	9,168,434
State Railway	37,088,481.09	7,158,077	26,015,859.90	5,021,061
Ceinture (Paris)	5,010,374.70	967,002	4,209,652.99	812,463
Total	1,151,291,995.47	222,199,354	609,799,231.43	117,691,251

Name.	Profits.	
	Francs.	
Nord	94,702,370.28	$18,277,558
Est	54,129,091.45	10,446,914
Ouest	60,645,825.23	11,704,644
Paris-Orleans	84,808,942.94	16,368,126
Paris, Lyons, and Mediterranean	192,425,198.30	37,138,063
Midi	42,907,993.04	8,281,243
State Railway	11,072,621.19	2,137,016
Ceinture (Paris)	800,721.71	154,539
Total	541,492,764.04	104,508,103

Accidents.—Number of train accidents, 82; divers accidents, 1,347; total, 1,429.

The number of persons killed and wounded was as follows:

Description.	Killed.	Wounded.
Train accidents	62	541
Imprudence	415	641
Other causes	43	281
Total	520	1,463
Classification:		
Agents of the companies	248	776
Passengers	101	541
Other persons	171	146
Total	520	1,463

The most serious accident of the year was that of St. Mandé (July 26), in which 49 passengers were killed and 211 wounded.

SYNDICATE OF RAILWAY EMPLOYÉS.

Some few years ago, a syndicate of French railway employés was organized, with the professed object of "upholding the employé in his legitimate claims against his employer." It has a membership at present of 15,000. Every member pays an entrance fee of 10 cents, and 20 cents a quarter. The society has a capital of about $12,000. This organization has acquired additional interest in the eyes of the public, just at this time, from the fact that certain questions growing out of an interpellation in the Chamber of Deputies in relation to the right of railway employés to attend the annual congress of the syndicate resulted in the resignation of the Casimir-Périer ministry. At the congress held in April, 1893, a series of resolutions were adopted, setting forth the claims of the railway men, and at the session held this spring, those resolutions were ratified. They are of interest as throwing a side light, from the standpoint of the employé, on the actual working system of the French railways. The resolutions present the following recommendations or claims:

(1) Purchase of all railways in France by the State.

(2) Abolition of the companies' inspectors and the substitution of a controlling committee composed of workmen and employés taken from all the grades of the railway.

(3) Creation of a tribunal of *prudhommes* (skilled workmen), having jurisdiction over all the workmen and employés of the State railways.

(4) The right of workmen of the State railways to proceed against their employers for breach of contract.

(5) After the first year, every workman or employé to be classed without any other guaranty than that of fitness.

(6) If the employé is not maintained in the service, he should receive an indemnity equal to two months' pay.

(7) A retiring pension to be allowed after twenty years' service.

(8) Every employé who has reached the above term, and whose pension would exceed 1,800 francs ($347.40), to be forced to retire.

(9) The pension, after twenty years' service, to be fixed at two-thirds the maximum salary, and never to be less than 1,200 francs ($231.60).

(10) Every employé who leaves the company, voluntarily or not, to have the right to a pension proportionate to the length of his service.

(11) In case of incapacity to work from accident or malady contracted in the service, the agent to be paid his regular salary up to the period when he would have a right to his pension.

(12) In case of the death of an agent, the pension to fall to the widow or to the children under age or infirm.

(13) The widow of an agent killed in the service to be paid the regular salary of the husband up to the liquidation of his pension, the pension to be inviolable.

(14) The salary during the first year not to be less than 5 francs (96 cents) a day; apprentices to receive 2 francs (38.6 cents) a day, and keepers of level crossings (women) 2.75 francs (53.08 cents). The following table of salaries to be adopted:

Description.	First class.		Second class.		Third class.	
	Francs.		*Francs.*		*Francs.*	
Porters, wagon men, etc.	2,100	$404.30	1,950	$376.40	1,800	$347.40
Office clerks	3,000	579.00	2,500	424.60	1,800	347.40
Switchmen, janitors, and cleaners	2,200	424.60	2,000	386.00	1,900	366.70
Under station masters and those at the head of secondary stations, guards, and inspectors	3,000	579.00	1,900	366.70	1,800	347.40
Coal men and laborers	2,000	386.00	1,900	366.70	1,800	347.40
Engine-drivers	4,800	926.40	4,400	849.20	4,080	772.00
Stokers	3,120	602.16	2,880	555.84	2,640	509.52
Line men and level crossing keepers	2,000	386.00	1,900	366.70	1,800	347.40

(15) The scale of promotion to be on the line of merit and after examination; the examination to be public, written, and oral; the questions to be drawn for by the candidates, and to be solely technical and relative to the grade aspired to; the number of points given to each candidate to be announced publicly.

(16) Every day a medical visit of the men, requiring it to be made at the station at a fixed hour; the employé who is pronounced sick to have the right to call in the doctor of his choice, who will present his bill afterwards to the section of the company to which the patient belonged; the sick and wounded to receive full salary.

(17) The working day to consist of eight hours; for any supplementary hours, the employé to receive double salary; the hours of work so regulated to be posted up in the stations and workshops of the company; a rest of twenty-four hours every eight or ten days; men on night service to receive a supplement of 15 cents per day; a leave of absence of fifteen days to be granted annually to all the employés; all gratuities to be forbidden, and the salaries of those who were hitherto the recipients of these gratuities (engine-drivers, stokers, conductors, etc.), to be increased.

EUROPEAN RAILWAYS.

The total length of railroads in Europe has been estimated at 232,438 kilometers (144,436 miles), distributed as follows:

Country.	Length.		Country.	Length.	
	Kilometers.	*Miles.*		*Kilometers.*	*Miles.*
Germany*	44,260	27,504	Holland	3,079	1,913
France	38,645	24,015	Roumania	2,611	1,623
Great Britain	32,799	20,381	Portugal	2,293	1,425
Russia	31,627	19,653	Denmark	2,065	1,283
Austria and Hungary	28,357	17,621	Turkey	1,818	1,129
Italy	13,673	8,496	Greece	915	569
Spain	10,894	6,770	Servia	540	335
Sweden and Norway	10,023	6,230	Malta	12	7
Belgium	5,438	3,379	Total	232,438	144,436
Switzerland	3,389	2,103			

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*Consul-General Mason, in his report, gives the mileage of German railways as amounting to 42,963.69 kilometers (26,847 miles).

CHARLES W. WHILEY, Jr.,
Consul.

ST. ETIENNE, *May 31, 1894.*

FRENCH RAILWAY STATISTICS (1892).*

Railways operated by corporations under Government control, and mileage operated:

(1) *Northern railways* (*chemins de fer du nord*).—Paris to Amiens, Lille, and Belgian frontier; Amiens to Boulogne and St. Quentin; Lille to Calais, Dunkirk, etc., 3,612 kilometers (2,244 miles).

(2) *Eastern railways* (*chemins de fer du l'est*).—Paris to the German frontier, near Strassburg and Mulhausen; Rheims to Nancy; Sedan to Troyes, etc., 4,560 kilometers (2,834 miles).

(3) *Western railways* (*chemins de fer du l'ouest*).—Paris to Rouen; Havre to Caen; Dieppe to Brest; Cherburg to Angers, Nantes, etc., 5,172 kilometers (3,214 miles).

(4) *Southwestern railways* (*chemins de fer d' Orleans*).—Paris to Orleans, Poitiers, Angoulême, and Bordeaux; Limoges to Bruges, etc., 6,375 kilometers (3,961 miles).

(5) *Southeastern railways* (*chemins de fer Lyons-Mediterrané*).—Paris to Dijon and Lyons; Avignon to Marseilles; Toulon to Grenoble, Nice, Cette, etc., 8,529 kilometers (5,300 miles).

(6) *Southern railways* (*chemins de fer du Midi*).—Toulouse, Cette, Tarbes, Montpelier, Perpignon, Bayonne, etc., 3,307 kilometers (2,065 miles).

(7) *State railways* (*chemins de fer du l'etat*).—Chartres, Orleans, Saumur, Tours, La Rochelle, Nivet, etc., 2,665 kilometers (1,656 miles).

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*Compiled from Statistique de Chemins de Fer Française, and from Revue Generale des Chemins de Fer.

Detailed statistics of Fre

Details.	Northern.	Eastern.	eastern.	Southern.	State.
Number of stocks issued*	525,000	584,00	800,000	250,000	....
Capital paid up*	$44,751,875	$56,356,00	,806,824	$28,239,567	....
Number of bonds issued*	3,639,746	4,930,85	,841,845	3,357,092	....
Capital paid up*	$236,101,203	$320,216,09	,917,689	$203,368,944	....
Gross earnings: †					
Passenger traffic	$10,662,068	$8,810,07	,138,777	$5,572,244	$2,592,850
Fast-freight traffic	2,507,959	2,060,37	,679,447	1,110,263	687,591
Slow-freight traffic	21,590,115	16,949,86	,331,976	10,410,366	4,012,482
Miscellaneous receipts	170,236	448,46	,170,917	220,352	33,593
Total traffic earnings	34,930,378	28,269,78	,321,117	17,313,225	7,326,516
Total earnings per mile	$16.26	$9.9	$13.30	$9.07	....
Other receipts	$840,804	$303,83	$300,186	$69,026	....
Expenditures:					
Administration and general expenses	$1,335,772	$972,53	580,068	$1,193,977	....
Labor	6,038,219	7,237,47	965,999	2,777,827	....
Other (buildings, rolling stock, etc.)	11,239,867	9,878,21	319,653	5,645,005	....
Total expenditures of operation‡	18,613,858	18,088,219	865,720	9,616,809	$5,695,203
Expenditure per mile	$8.41	$6.46	$6.70	$5.18	$3.44
Other expenditures	$319,902	$282,280	372,784	$312,689	$538,018
Net earnings from traffic§	$18,268,305	$9,810,026	933,559	$7,222,847	$1,850,708
Net earnings per mile	$7.97	$3.45	$6.70	$3.87	$1.12
Interest paid on bonded debt	$9,571,210	$13,747,521	116,565	$8,953,230	....
Amount paid for redemption of bonds	$2,126,002	$2,598,528	747,952	$1,520,164	....

*Stocks—total number issued, 3,059,000; capital paid up, $283,689,650. Bonds—total numbe

362,407.

†Gross earnings—passenger traffic, $70,355,309; fast freight, $18,645,006; slow freight, $127,

total earnings, $222,106,670; other receipts,

$3,243,756.

‡Total expenditures of operation, $121,996,174.

§Total net earnings, $100,110,496.

FRENCH RAILWAY STATISTICS (1892).*

Railways operated by corporations under Government control, and mileage operated:

(1) *Northern railways* (*chemins de fer du nord*).—Paris to Amiens, Lille, and Belgian frontier; Amiens to Boulogne and St. Quentin; Lille to Calais, Dunkirk, etc., 3,612 kilometers (2,244 miles).

(2) *Eastern railways* (*chemins de fer du l'est*).—Paris to the German frontier, near Strassburg and Mulhausen; Rheims to Nancy; Sedan to Troyes, etc., 4,560 kilometers (2,834 miles).

(3) *Western railways* (*chemins de fer du l'*

Corrections in table of "Detailed statistics of French railways, 1892," p. 325.

Expenditures per mile of railway for the seven lines, respectively: $8,339; $6,334; $5,438; $4,479; $6,578; $4,657; $3,418.

Net earnings per mile of railway for the seven lines, respectively: $8,141; $3,462; $3,692; $4,095; $6,591; $3,501; $1,119.

(7) *State railways* (*chemins de fer du l'etat*).—Chartres, Orleans, Saumur, Tours, La Rochelle, Nivet, etc., 2,665 kilometers (1,656 miles).

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*Compiled from Statistique de Chemins de Fer Française, and from Revue Generale des Chemins de Fer.

Detailed statistics of French railways in 1892.

Details.	Northern.	Eastern.	Western.	Southwestern.	Southeastern.	Southern.	State.
Number of stocks issued*	525,000	584,000	300,000	600,000	800,000	250,000	....
Capital paid up*	$44,751,875	$56,356,000	$29,132,764	$59,402,420	$65,806,824	$28,239,567	....
Number of bonds issued*	3,639,746	4,930,856	4,817,855	5,301,685	11,841,845	3,357,092	....
Capital paid up*	$236,101,203	$320,216,099	$297,552,977	$330,205,495	$743,917,689	$203,368,944	....
Gross earnings:†							
Passenger traffic	$10,662,068	$8,810,075	$12,299,381	$10,279,953	$20,138,777	$5,572,244	$2,592,850
Fast-freight traffic	2,507,959	2,060,376	2,442,706	3,155,664	6,679,447	1,110,263	687,591
Slow-freight traffic	21,590,115	16,949,867	14,062,650	20,667,980	42,331,976	10,410,366	4,012,482
Miscellaneous receipts	170,236	448,468	363,850	183,464	1,170,917	220,352	33,593
Total traffic earnings	34,930,378	28,269,786	29,168,587	34,287,061	70,321,117	17,313,225	7,326,516
Total earnings per mile	$16.26	$9.91	$9.14	$8.50	$13.30	$9.07	....
Other receipts	$840,804	$303,831	$634,829	$864,691	$300,186	$69,026	....
Expenditures:							
Administration and general expenses	$1,335,772	$972,538	$1,371,913	$1,809,772	$2,580,068	$1,193,977	....
Labor	6,038,219	7,237,470	5,918,773	5,269,446	12,965,999	2,777,827	....
Other (buildings, rolling stock, etc.)	11,239,867	9,878,211	10,186,412	10,660,049	19,319,653	5,645,005	....
Total expenditures of operation‡	18,613,858	18,088,219	17,477,098	17,739,267	34,865,720	9,616,809	$5,695,203
Expenditure per mile	$8.41	$6.46	$5.46	$4.55	$6.70	$5.18	$3.44
Other expenditures	$319,902	$282,280	$153,753	$594,464	$372,784	$312,689	$538,018
Net earnings from traffic§	$18,268,305	$9,810,026	$11,806,040	$16,219,011	$34,933,559	$7,222,847	$1,850,708
Net earnings per mile	$7.97	$3.45	$3.67	$3.98	$6.70	$3.87	$1.12
Interest paid on bonded debt	$9,571,210	$13,747,521	$12,804,238	$13,827,662	$32,116,565	$8,953,230	....
Amount paid for redemption of bonds	$2,126,002	$2,598,528	$2,684,196	$2,812,850	$5,747,952	$1,520,164	....

*Stocks—total number issued, 3,059,000; capital paid up, $283,689,650. Bonds—total number issued, 33,883,109; capital paid up, $2,131,362,407.

†Gross earnings—passenger traffic, $70.355,309; fast freight, $18,645,006; slow freight, $127,610,273; miscellaneous receipts, $2,590,920; total earnings, $222,106,670; other receipts, $3,243,756.

‡Total expenditures of operation, $121,996,174.

§Total net earnings, $100,110,496.

Detailed statistics of French railways in 1892—Continued.

Details.	Northern.	Eastern.	Western.	Southwestern.	Southeastern.	Southern.	State.
Dividends and interest paid on stocks	$6,651,709	$3,824,337	$2,116,232	$6,572,437	$8,492,000	$2,366,546	....
Amount paid for redemption of stocks	$53,075	$238,995	$135,390	$325,205	....	$53,945	....
Other expenses (taxes, direct and indirect)	$4,235,221	$3,931,451	Not given.	$5,813,932	*$368,986	$2,551,364	....
Number of employés	38,000	35,525	Not given.	33,551	68,537	14,349	Not given.
Number of passengers carried:							
First class	2,655,860	3,054,388	7,463,021	1,126,368	2,663,979	665,922	Not given.
Second class	7,135,525	16,755,317	37,077,461	2,765,974	5,424,662	1,633,532	Not given.
Third class	34,579,939	26,839,835	26,710,170	22,890,215	39,807,011	13,016,559	Not given.
Total	44,371,324	46,649,540	71,250,652	26,782,557	47,895,652	15,316,013	Not given.
Number of passengers carried 1 kilometer	1,472,125,155	1,177,218,695	1,557,695,361	1,369,226,215	2,346,807,864	718,225,852	Not given.
Earnings per passenger per kilometer:							
First class	$\$0.86\frac{17}{20}$	$\$0.50\frac{19}{25}$	$\$0.30\frac{49}{100}$	$0.81	$1.88	$1.42	....
Second class	$\$0.44\frac{1}{5}$	$\$0.14\frac{7}{25}$	$\$0.13\frac{8}{25}$	$\$0.69\frac{9}{10}$	$1.73	$\$0.67\frac{11}{20}$	....
Third class	$\$0.15\frac{1}{20}$	$\$0.18\frac{23}{100}$	$\$0.18\frac{13}{25}$	$\$0.27\frac{79}{100}$	$\$0.32\frac{13}{100}$	$0.27	....
All classes	$\$0.23\frac{13}{100}$	$\$0.19\frac{11}{100}$	$\$0.15\frac{11}{50}$	$\$0.38\frac{17}{100}$	$\$0.41\frac{3}{10}$	$\$0.36\frac{7}{25}$	....
Freight carried per slow freight ... tons	23,768,971	14,223,643	9,230,238	9,553,846	22,220,565	5,825,726	2,874,825
Freight carried 1 kilometer ... do	2,424,641,976	1,620,349,451	1,126,472,191	1,161,997,172	4,020,950,861	821,455,158	329,573,750
Freight earnings per ton	$\$0.91\frac{67}{100}$	$1.13	$1.32	$1.96	$1.83	$1.69	....
Transportation rates per kilometer:							
Passengers—							
First class	$\$0.02\frac{4}{25}$	$\$0.02\frac{4}{25}$	$\$0.02\frac{4}{25}$	$\$0.02\frac{4}{25}$	$\$0.02\frac{4}{25}$	$\$0.02\frac{4}{25}$	....
Second class	$\$0.01\frac{23}{50}$	$\$0.01\frac{23}{50}$	$\$0.01\frac{23}{50}$	$\$0.01\frac{23}{50}$	$\$0.01\frac{23}{50}$	$\$0.01\frac{23}{50}$	....
Third class	$\$0\ 00\frac{19}{20}$	$\$0.00\frac{19}{20}$	$\$0.00\frac{19}{20}$	$\$0.00\frac{19}{20}$	$\$0.00\frac{19}{20}$	$\$0.00\frac{19}{20}$	....
Wheat and flour in sacks ... per ton	$\$1\ 54\text{ to }\$0.00\frac{43}{100}$	$\$1.54\text{ to }\$0.00\frac{39}{100}$	$\$1.54\text{ to }\$0.00\frac{29}{100}$	$\$1.54\text{ to }\$0.00\frac{29}{100}$	$\$1.54\text{ to }\$0.00\frac{49}{100}$	....	....
Pig iron ... do	$\$1.54\text{ to }\$0.00\frac{43}{100}$	$\$1.54\text{ to }\$0.00\frac{39}{100}$	$\$1.54\text{ to }\$0.00\frac{39}{100}$	$\$1.54\text{ to }\$0.00\frac{49}{100}$	$\$1.54\text{ to }\$0\ 00\frac{49}{100}$	....	....
Coal ... do	$\$1.54\text{ to }\$0.00\frac{39}{100}$	$\$1.54\text{ to }\$0.00\frac{39}{50}$	$\$1.54\text{ to }\$0.00\frac{49}{100}$	$\$1.54\text{ to }\$0.00\frac{49}{100}$	$\$1.54\text{ to }\$0.00\frac{39}{100}$	....	....

* Direct taxes only.

SAMUEL E. MORSS,
Consul-General.

PARIS, *September 12, 1894.*

GERMANY.

Railways in Germany are divided, with respect to their ownership and management, into three general classes, viz: (1) Imperial railroads, such as those of Alsace-Lorraine, which are owned and managed by the Imperial Government; (2) state railways—that is, roads and systems owned and managed by states like Prussia, Saxony, Bavaria, and Würtemberg; and (3) private railways, which includes the roads which were built and remain in the possession of incorporated companies, similar in all important respects to the railway companies of Great Britain and the United States.

STATE RAILWAYS.

Of these three groups, by far the most important in Germany is the second—the state railways—and of this foremost group the principal unit is formed by the state railways of Prussia, which include 25,633.57 kilometers (15,928 miles), or more than half of the 42,963.69 kilometers (26,847 miles) of railroads in operation within the German Empire at the close of 1893. As the Prussian system includes the great through lines between Berlin and Hamburg, Cologne, Frankfort, and Breslau, and, with one exception, all the important railroads which traverse the district of Frankfort, it is chosen as the principal subject of this report, the second portion of which is devoted to the Hessische Ludwig's Railway Company, as a prominent example of a railway system under corporate ownership and management.

In one respect only do the statistics herewith presented diverge from the line of inquiry prescribed by the instructions of the Department. The Prussian railways are owned and operated not as distinct individual lines, each having its specific termini, tariffs, and a special management controlling a single road as a separate unit, but as a consolidated system covering the whole territory of Prussia, which is divided for this purpose into eleven districts, each of which is managed by a president and a complete administration, including all the various bureaus of construction and supply, passenger and freight traffic, and all their subordinate departments in elaborate and complete detail. These eleven geographical districts divide the entire state railway system of Prussia into the same number of working sections or divisions, similar in many respects to the separate divisions of a transcontinental railway working under one central management in the United States. The districts have their headquarters, respectively, at Altona, Berlin, Breslau, Bromberg, Elberfeld, Erfurt, Frankfort, Hanover, Magdeburg, and two at Cologne, viz., one for the state railroads on the right bank and the other for the roads on the left bank of the Rhine.

The administration of each of these eleven divisions controls whatever part of the state railways which lie within the geographical limits of its district. The Hanover division has 2,306 kilometers (1,382 miles) of track; that of Frankfort, 1,335.94 kilometers (830 miles); and that of Berlin, 3,215 kilometers (1,998 miles), the least important being Elberfeld, with 1,246.12 kilometers (774 miles) of line. All the division administrations report to a central office in Berlin, where the statistics are collated and more or less completely published, and it is for this reason—the reports being from geographical divisions and not from complete and distinct roads; the whole Prussian railway system being treated in the records of a collective unit—that separate statistics of any individual line which runs through the territory of two or more districts are not available. With this inevitable modification, the questions presented by the instructions of the Department may be answered as follows, values being given in United States currency and distances in the kilometer, which is about 0.6214 of a mile.

The Prussian state railway system is under the control of the state government of Prussia.

The total length of road operated is 25,633 kilometers (15,928 miles), of which 15,412.75 kilometers are single tracked, 9,967.92 kilometers are double tracked, 36.76 kilometers have triple tracks, and 41.22 kilometers have quadruple tracks.

The total capitalization is $1,585,314,556.

The total bonded debt of the railways is represented by outstanding Prussian state bonds based upon the ownership of the railways, certain canals, and other public property, which are of three issues, as follows: Four per cents, $855,054,948; 3½ per cents, $451,045,700; 3 per cents, $74,790,000.

To what precise amount these bonds form a direct lien upon the railroads, and what part of the three above loans is chargeable to canals, the payment of various deficits, and other public property, can not be ascertained here with sufficient accuracy to justify or render possible a concise statement, but it is the opinion of good German financiers that the Prussian state railways are worth from two to three times the amount of their bonded indebtedness.

Gross earnings in 1892–'93:	
Passenger traffic	$55,889,915.56
Freight traffic	150,536,338.04
Total	206,426,253.60
Gross earnings per kilometer	8,053.14
Gross earnings per mile	13,057.46
Expenses of operation and management:	
Labor	61,574,280.63
Other	76,776,304.57
Total	138,350,585.20
Net earnings from traffic	68,075,668.40
Net earnings per kilometer	2,655.78
Net earnings per mile	4,306.08
Other income, rentals, etc	12,759,663.88
Total net income	80,835,332.78
Taxes	1,185,299.98

Surplus for the year	$79,650,032.80
Number of employés	107,042
Track hands	49,211

The number of passengers carried was 324,530,111, as follows:

First class (0.4 per cent)	1,225,552
Second class (10.4 per cent)	33,835,279
Third class (51.2 per cent)	166,139,873
Fourth class (36.5 per cent)	118,330,873
Military	4,998,534
Total	324,530,111
Number of passengers carried per kilometer	7,894,746,300
Total number of tons of freight carried	147,699,422
Number of tons carried per kilometer	16,896,246,654

The average earnings per ton per kilometer were seventy-three-eightieths of one cent.

The rates charged for transportation of passengers were as follows:

Description.	Per kilometer.	Per mile.
	Cents.	*Cents.*
First class	1.91	3.09
Second class	1.237	2.01
Third class	0.762	1.29
Fourth class	0.492	0.798
Military	0.382	0.619

Freight charges are classified under three special schedules or tariffs, numbered, respectively, I, II, and III. Each kind of merchandise is charged as freight according to the schedule to which it belongs, under the decision of the "Deutscher Eisenband Verband." Thus wheat and flour are rated as first-class freight; iron plates, machinery, etc., come under the second schedule; and pig iron and coal come under schedule III. The cost per ton for a haul of one kilometer is the same for all three classes of freight, but as the distance carried increases, the second and third class schedules decline relatively in proportion to the length of haul until a ton of first-class freight carried 1,000 kilometers (621 miles) pays $10.99, while a ton of second-class freight carried the same distance costs $8.61, and a ton of third-class freight carried the same distance costs $5.52.

The following rates per ton for wheat, flour, pig iron, and coal carried 1, 30, 50, 100, and 500 kilometers, will illustrate the general working of the schedules:

Articles.	1 kilometer (0.6214 mile).	30 kilometers (18.64 miles).	50 kilometers (31.07 miles).	100 kilometers (62.14 miles).	500 kilometers (310.7 miles).
Wheat (first-class)	$0.20	$0.54	$0.78	$1.29	$5.64
Flour (first-class)	.20	.54	.78	1.29	5.64
Pig iron (third-class)	.20	.47	.59½	.85	2.92
Coal (third-class)	.20	.47	.59½	.85	2.92

PRIVATE RAILWAY CORPORATIONS.

In order to illustrate more completely the relative conditions of state and corporate railway management in the consular district of Frankfort, there is herewith presented the following exhibit of the Hessische Ludwig's Railway Company, a private corporation, organized in 1844, which built and still manages the system of railways which lies within the territory of the Grand Duchy of Hesse.

The central management of the company is located at Mayence, which is the geographical focus of the system, and its lines extend down along the left bank of the Rhine beyond Bingen, whence it is continued as an unbroken route by the Prussian state line to Cologne, eastward through Frankfort, Hanau, and Aschaffenburg to the Bavarian frontier, southward through Worms to Eberbach, and northward to Wiesbaden.

The capital stock of the company is 111,900,000 marks ($26,632,200), on which were paid dividends of 4⅔ per cent in 1890 and 1891, and 4¼ per cent in 1892. Its shares stand in the market to-day at 114 to 115. Like the Prussian state railways above described, the Hessische Ludwig's is a network or convergent system rather than an extended line, and includes twenty-eight different roads and branches, united under one ownership and management, and having an aggregate length of 699.72 kilometers (434.52 miles). The first portion of this system was opened for traffic in September, 1848, and its latest construction was finished in August, 1888. Applying to this corporation the inquiries presented by the Department circular of April 10, 1894, the exhibit is as follows:

(1) The Hessische Ludwig's Railway Company is a private railway corporation, similar in organization and management to railway companies in Great Britain and the United States.

(2) The central terminus is at Mayence, and the points touched are Frankfort, Hanau, Worms, Wiesbaden, Alzey, Bischoffsheim, and Sachsenhausen.

(3) The total length of the line is 699.72 kilometers (434.52 miles). Distances between main points are: Mayence through Worms to Bavarian frontier, 47.25 kilometers; Mayence via Bingen to Prussian frontier, 30.58 kilometers; Mayence to Aschaffenburg, 76.21 kilometers; Mayence to Frankfort, 38 kilometers.

(4) The condition of the line is good. Bridges are of iron and stone, and the track is well ballasted and well kept. Stations are neat and in good repair. Locomotives and cars are mainly of old patterns, but are well kept and in serviceable condition.

(5) Double-tracked lines aggregate 371.53 kilometers (230.86 miles; and single-tracked lines 328.19 kilometers (203.94 miles).

(6) From Frankfort to Mayence and Bingen there are thirteen daily passenger trains in each direction; from Frankfort via Hanau to Eberbach, seven daily trains each way. Smaller branch lines run five or six daily trains in winter and seven in summer.

(7) The rates for passengers are the same as those given above for the state railways of Prussia, and where the lines of the Hessische Ludwig's Company parallel those of Prussia, as, for example, from Frankfort to Bingen, on either bank of the Main and Rhine, passage tickets are interchangeable—that is, good over either line. Passenger rates per kilometerare: First-class, 1.91 cents; second-class, 1.237 cents; third class, 0.762 cent; fourth-class, 0.492 cent; military, 0.382 cent (3.09, 2.01, 1.29, 0.798, and 0.619 cents per mile.)

Freight rates are also identical with those given for the Prussian state railways. All freights are grouped, according to the nature of the merchandise, under three general classes, viz: First, second, and third-class freights, and the charge for transportation in each class is in accordance with the distance carried, the price per ton per kilometer declining gradually and in mathematical ratio to the increased length of haul.

None of the lines of this company overcome any great natural obstacles. The principal bridge construction is that which spans the Rhine at Mayence.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 21, 1894.*

ITALY.

Railways had become the means of rapid communication in some of the countries of Europe at a time when Italy was still to make the experiment. Being divided into eight states, Italy could not devise a satisfactory system of railways adapted to its geographical configuration, each state considering its own interests. The duchies of Modena, Parma, and Lucca, which, owing to the smallness of their territory, could not construct a system for themselves individually, arranged with the neighboring states to build roads that would serve the interests of all. An agreement was entered into at Rome with the Austrian, Pontifical, and Tuscan governments, these consenting to the building of railways which were to cross their respective territories. The Duchy of Lucca, which, by the treaty of 1815, was shortly to become incorporated with Tuscany, entered into a special agreement with the latter. In short, the building of railways received encouragement in all the Italian states, especially in Piedmont.

Several schemes for the construction of railways were tried, but they all failed. By the first scheme, the construction of the roads was confided to private companies, the roads to be operated by the Government and the earnings to be divided between the companies and the Government for a certain period. By the second scheme, private companies were to build as well as operate the roads. By the third scheme, the railroads were to be built and operated by the State. By the fourth scheme, which is still on trial, a partnership between the State and the railway companies was created for the operating of the roads, the State contributing its railroad property and the companies contributing the necessary capital for running the roads and assuming the management thereof. After deducting the operating expenses and the interest on the capital invested, the profits are divided.

EARLY GRANTS AND RAILWAY BUILDING.

The railway grants and building up to April, 1859, were:

Kingdom of the Two Sicilies.—On June 19, 1836, King Ferdinand II granted to two Frenchmen the railroad line from Naples to Nocera, with a branch from Torre Annunziata to Castellamare di Stabia, and by a second decree, on March 8, 1856, he authorized the same parties to extend the main line from Nocera to Salerno. The section between Naples and Portici, completed in 1839, was the first ever operated in Italy. The King's rescripts of February 7, 1842, and September 22, 1856, ordered the building by the State of the line from Naples to Capua via Caserta, and from Capua to the boundary of the States of the Church near Ceprano. By two other decrees (January 20, 1845, and July 30, 1853), it was ordered that a branch line be built at the expense of the State from Cancello to Nola and thence to San Severino. All grants subsequently made by the Kingdom of the Two Sicilies lapsed.

Lombard-Venetian Kingdom.—The first railway in Lombardy extended from Milan to Monza, and was opened to traffic on August 18, 1840. In September, 1835, Messers Francesco Vaie and Sebastiano Wagner asked permission to build and operate a railway from Milan to Venice. The Austrian Government, on October 15, 1838, decreed that a stock company with a capital of 50,000,000 francs ($9,650,000), divided into 500,000 shares of 100 francs each ($19.30), the amount to be raised by the following spring, should be formed for that purpose. The company was soon formed and received the royal grant April 7, 1840. Early in 1841, work was begun on Venetian territory, on the section between Padua and Venice. Nothing was done in Lombardy. A financial crisis soon swept away the value of the company's stock. It was then that the Austrian Government, after having by rescript of December 19, 1841, proclaimed the creation of state railways (the Milan-Venice and Milan-Como lines being of the number), decreed that if the companies were not in a condition to complete the roads, the State would undertake to do so. In 1852, when it became apparent that the company could not fulfill its engagements and complete the Lombard-Venetian road, the Government canceled its concessions and took the work upon itself. The Milan-Venice line and all other lines having passed to the State, were, by virtue of an imperial decree on April 17, 1856, together with all work done up to date, ceded for 100,000,000 Austrian lire ($19,300,000), for a period of ninety years to the Messrs. Rothschild, Duke of Galliera & Co., who thereupon formed the Lombard-Venetian Railroad Company.

States of Æmilia.—While railway building in Lombardy was passing through the phases referred to, the several governments of Æmilia had entered into an agreement with those of Austria and Tuscany, with a view of carrying to completion the principal lines by which they wished to connect their provinces with Lombardy and Venice. Hence, the governments of Austria, Parma, Modena, States of the Church, and Tuscany entered into an agreement (already alluded to), on May 1, 1851, by which, on March 17, 1856, the privilege of building and operating three principal branches (one from Piacenza to Bologna, one from Bologna to Pistoja, and the third from Reggio to Borgoforte, forming the system which later took the name of Italian Central), was granted to the Duke of Galliera, as the representative of the grantees of the Lombard-Venetian railways. By a subsequent agreement (April 8, 1857), certain modifications were made concerning the above-mentioned roads, and certain sections of road were added, and on September 23, 1858, the Italian roads were united with the Austrian, and a single company known as the South Austrian, Lombard, and Italian Central Railway Company was formed.

Grand Duchy of Tuscany.—The idea of endowing Tuscany with railways originated in 1838, when two banking houses obtained permission to build a road from Florence to Leghorn. The grant was finally made in 1841, and the line was opened to traffic in 1848. About this time, the governments of Tuscany and Lucca granted charters to the road running along the right bank of the Arno from Florence to Pisa. This road was, however, granted to three companies—the Florence-Pistoja, the Pistoja-Lucca, and the Lucca-Pisa—each operating a short section. The company which had received the contract to build the Lucca-Pisa section failed, and the road was sold at auction. In 1844, a company known as the Tuscan Central was formed at Sienna with the view of building a road from Sienna to Empoli. This company, with a capital of 10,000,000 francs ($1,930,000) received its charter June 5, 1845. The company not having sufficient means, the Government on May 3, 1848, came to its assistance by guarantying 3 per cent interest on the capital of 10,000,000 francs. In this way the road was completed and opened on October 14, 1849. On September 17, 1853, a charter was granted to Gandell Bros., of London, for a line from Florence to Perugia, via Arezzo. As this firm failed to fulfill their obligations, their contract was transferred on August 16, 1856, to the Marquis of Flers, who organized a company, which, notwithstanding it received many aids from the Government, was not equal to finishing even the short line from Florence to Pontassieve.

States of the Church.—Many years were wasted in fruitless efforts to induce the pontifical government to do something toward building railways within its territory. Finally, in 1850, a concession was granted to Casavaldes & Co., for the building of the line between Rome and Civita Vecchia. Work on the line was begun in 1856. The building of the two lines from Rome to Ancona and from Ancona to Bologna was also awarded in 1856 to the same parties who formed a company known as the Roman Railway Company, and called the "Pius-Central." In 1857, this same company was awarded the building of the line from Bologna to Ferrara, as far as the right bank of the River Po. The line from Rome to Frascati was awarded, on June 11, 1856, to a company known as the Pio-Latina Railway Company. To this company was also awarded, on March 3, 1858, the building of the road from Rome to the boundary of the Kingdom of the Two Sicilies, near Ceprano. Up to April 1859, only 63 miles had been completed—from Rome to Frascati, 12½ miles, and from Rome to Civita Vecchia, 50 miles. The two roads, the Pius-Central and the Pio-Latina, were merged together toward the end of 1859 and become known as the Roman Railway Company.

Kingdom of Sardinia.—As far back as 1830, a number of prominent citizens started the plan of building a road from Genoa to the River Po, and in 1833 and 1834, a movement was made to connect Genoa by rail with Piedmont and Lombardy. But, although the Government had been considering the matter, it must be said that the project took life in 1840 only. In September of that year, a certain number of Genoese bankers and capitalists were authorized by royal letters-patent to form a company to study the question of a road from Genoa to Piedmont, with a branch to the frontier of Lombardy. All negotiations were, however, broken off with this company, and, on July 18, 1844, a royal patent prescribed that a system of state roads was to be built by establishing a line from Genoa to Turin, via Alexandria, with a branch toward the Lomellina, and thence to the Lago Maggiore, via Novara, on the one hand and to the Lombard frontier on the other. The construction of this road by the state was ordered by royal patent on February 13, 1845. Work was begun the same year and actively pushed along the whole line from Turin to Genoa. The first section from Turin to Moncolieri was finished and opened to traffic in 1848. The entire line was finished in 1853.

The line from Alexandria to the Lago Maggiore, the construction of which was begun in 1847, was opened as far as Novara on July 3, 1854. The rest of the line was opened the following year from Novara to the Lago Maggiore, on which a steamboat had been established by Government aid to facilitate trade between Sardinia and central and eastern Switzerland.

A railway under the Swiss Alps would have been of immense advantage to the Alpine provinces and to the port of Genoa; hence, the Sardinian government in 1846 entered into negotiations with the cantonal governments of the Ticino, Grisons, and St. Gall obligating itself by the convention of January 16, 1847, to extend the railway from Genoa to the Swiss frontier, and to contribute to the construction of the Lago Maggiore Railway.

A charter was granted in 1850 to a company to build and operate the line from Turin to Savigliano, and in 1852, the privilege was granted to extend this road to Cuneo via Fossano. This line was completed in 1855. In 1857, a branch from Savigliano to Saluzzo was built.

The following lines were chartered in 1852:

Line from Turin to Susa. The Government contributed toward building this road by taking one-half of the shares and agreeing to operate the road for 50 per cent of its gross earnings.

Line from Mortara to Vigevani. The Government, in this instance, agreed to operate the road on the same conditions as for the Turin-Susa line, and, furthermore, guarantied 4½ per cent on the cost of construction.

Line from Turin to Vercelli and Novara. The cost of construction of this road being estimated at 16,000,000 francs (3,088,000), the Government subscribed to one-half of the stock.

Line from Cavallermaggiore to Bra. In this case, no State aid was granted. The investment of private capital in railroad building continued.

In 1853, a company undertook to build ~~and operate the~~ line from Genoa to Voltri. A charter was also granted to the Turin-Penerolo line, the conditions being the same as those for the Turin-Susa line.

In 1853, the Victor Emanuel Company built the roads in Savoy.

In 1854, charters were granted to the following roads: Valenza to Vercelli via Casale; Alexandria to the frontier of Parma, including the branch from Tortona to Novi, and Santhia to Biella. Private capital built these roads without assistance from the State.

The Savoy railways, belonging to the Victor Emanuel Company, were reorganized in 1857, and the two lines, Turin-Susa and Turin-Ticino, together with the link under the Alps, were consolidated with the Savoy system.

By an act of Parliament (August, 1857), the tunneling of the Alps was decreed, the State to undertake the work. As this great tunnel was to unite the Italian railway system with the Savoy system, the Victor Emanuel Company was called upon to contribute 20,000,000 francs ($3,800,000).

In 1858 and the first months of 1859, there occurred a lull in railway building.

PROGRESSIVE RAILWAY INCREASE.

The following table shows the progressive increase in railway mileage from the date of opening to the public of the first road up to the time of the unification of the provinces of Italy (1839–'59):

Years.	Sardinia.	Lombardy and Venetia.	Papal Territory.	Grand Duchy of Tuscany.	Sicily.	Total.
	Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*
1839					4.97	4.97
1840		8.08				8.08
1842		20.51				20.51
1843					20.51	20.51
1844				11.81	19.26	31.07
1845				12.28		12.28
1846		41.01		11.81	7.46	60.28
1847				16.16		16.16
1848	4.97			44.74		49.71
1849	30.45	49.71		39.77		119.93
1850	34.80					34.80
1851	7.46	35.56		9.94		52.96
1852		1.86				1.86
1853	66.48			4.35		70.83
1854	120.55	52.82				173.37
1855	32.31	44.74				77.05
1856	90.72			1.24	9.32	101.28
1857	23.61	31.07	12.43	6.21		73.32
1858	104.40	16.78				121.18
1859		24.22	50.33	1.24		75.79
Total	515.75	326.36	62.76	159.55	61.52	1,125.94

1859 TO 1865.

The peace of Villafranca gave a new impetus to railway building. By the treaty of peace, signed at Zurich, the Sardinian Government recognized and confirmed all charters previously granted in Lombardy by the Austrian Government. On June 25, 1860, the Sardinian Minister of Public Works and Mr. Falabot, representing the Imperial Royal South Austrian Lombard-Venetian and Italian Central Company, signed a convention by which all grants and rights previously conferred on and belonging to the said company were confirmed. By this convention, it was stipulated that the Sardinian Government was to buy the roads built on Lombard territory, now annexed to Sardinia, paying 5 per cent interest on the cost of the roads and material until such time as full payment should be made. The Sardinian Government was to pay 6,500,000 francs ($1,254,500) rent a year for the Italian Central lines.

Tuscany.—The road which skirts the right bank of the Arno was consolidated with the road which follows the left bank. A company was formed in 1860 to build a road across the Maremma, from Leghorn to the frontier of the States of the Church.

Kingdom of the Two Sicilies.—The Bourbon Government, shortly before its downfall, granted a charter to a line that was to run from the Tronto to Taranto. The charter was subsequently modified by the Italian Government by granting a new charter to a line to run from Ancona to Otranto, with branches to Bari and Taranto. To relieve the state of the cost of constructing the roads on Neapolitan territory, the Government granted a charter to Count Bastogi, who formed the Italian Southern Railway Company.

By the cession of Savoy to France, the Victor Emanuel Railway Company's principal line was divided. The company ceded to the Government its line from Turin to the Ticino, and its shares in the old company—the Turin-Susa Company—for 2,226,000 francs ($429,618) in State bonds. The contract for building the Calabro-Sicilian system was awarded to the Victor Emanuel Company in 1863.

The Roman Railway Company extended its mileage by building the line from Castel Bolognese to Ravenna, and by acquiring the road from Ceprano to Naples.

A charter was granted in 1863 to Signor Semenza for building and operating the roads in the Island of Sardinia from Cagliari to Iglesias, and from Cagliari to Oristano, from Oristano to Ozieri, and from Ozieri to Terranova and Golfo degli Aranci. The grant was to run 99 years from January 1, 1863, the State guarantying a net return of 9,000 lire ($1,737) per kilometer, calculating the expenses at 50 per cent of the receipts. The State also gave 500,000 acres of State lands to the company, and reserved to itself the privilege of buying the road at the expiration of thirty years.

By the act of Parliament of May 14, 1865, the Italian railways were divided into five groups, each group to be operated by a distinct company.

The Upper Italy Railway Company took charge of the lines formerly owned by the State and of the Lombardy and central Italy roads. The total length of the line was 2,010 kilometers (1,256 miles).

The Roman Railway Company took charge of the roads from Florence to Leghorn, the Tuscan Central, the Maremma, and the road from Carrara to Avenza, but ceded to the Italian Southern the lines from Bologna to Ancona and from Castel Bolognese to Ravenna. The total length of the line was 1,730 kilometers (1,081 miles).

The Italian Southern, after assuming charge of the Bologna-Ancona and Castel Bolognese-Ravenna lines, had a total length of 1,750 kilometers (1,094 miles).

The length of the Victor Emanuel system was now 1,260 kilometers (788 miles), without taking into account the Taranto-Brindisi branch and the Palermo-Trapani-Marsala branch.

The length of the Sardinian railroad system was 400 kilometers (250 miles).

Besides the above-mentioned five great routes, there were a few short lines which were operated by the Upper Italy Railroad Company.

This order of things, with a few modifications, lasted until the Upper Italian system was bought by the Government.

The conditions made with the companies were:

Upper Italian system.—This system was to control the railways of Lombardy for ninety years—from January 1, 1865, to December 31, 1954—and the Italian Central until December, 31, 1948. The Government, however, reserved the right to repurchase the first road after 1895 and the second road after 1888, paying until the expiration of the concession an annual amount equal to the mean net profits that might have been realized in a given number of years. This amount was in no case to be inferior to 5 per cent of the capital guarantied for the Lombard system, and to 6,500,000 francs ($1,254,800) for the Italian Central.

The State sold the Piedmontese system for 200,000,000 lire ($38,600,000). The concession was to run ninety-five years from January 1, 1865, with the privilege to the Government of repurchasing. This "system" agreed to contribute 3,000,000 lire ($579,000) to improve the port of Genoa. It further agreed to contribute not less than 10,000,000 lire ($1,930,000) toward tunneling the Swiss Alps east of the Tore. It was further stipulated that this system was to have the sole right, for ten years, of building branch roads, and the Government pledged itself not to grant charters to parallel roads or to roads that might compete.

The Roman railroad system.—This system agreed (1) to take upon itself the building and operating of the Ligurian railroads, and by taking the place of the Government to redeem the Genoa-Voltri line; (2) to cede back to the Government, at cost, provided always the sum did not exceed 54,786,000 lire ($10,573,698), the railway line from Bologna to Ancona, with a branch to Ravenna, in order to complete the Italian Southern system; (3) to provide for the building and operating of all the lines that had been granted to the several companies, which, merged together, gave life to the new Roman Railway Company.

The Government gave to this new company, for all the merged lines, an annual subsidy of 13,250 lire ($2,557) per kilometer ($4,155 per mile), provided the gross earnings per kilometer of this system did not exceed 12,500 lire ($2,413). Whenever this should occur, the annual subsidy was to be diminished by one-half of the difference in excess between the gross earnings and the sum of 12,500 lire fixed as the lowest limit. Finally, the gross earnings and the subsidy from the State were never to exceed the sum of 30,000 lire ($5,790), so that whenever the gross earnings should equal that amount the subsidy would cease. In other words, the company could count on about 15,500 lire ($2,992) a year per kilometer ($4,851 per mile) to meet the interest and sinking fund.

Multiplying this last sum by 1,276 kilometers in operation from 1875, we get for the Italian part of the system the sum of 19,800,000 lire ($3,821,-400), to which must be added 3,400,000 lire ($656,000), the mean net earnings of the old Pontifical line, and we have the sum of 23,000,000 lire ($4,439,000) a year for the interest and sinking fund. This sum corresponded to about 4.8 per cent of the cost of building the Italian part of the road as well as the Pontifical part, together with the rolling-stock, the total cost having been about 482,000,000 lire ($93,026,000).

Southern Italian Company.—The law of 1865 required this company to change the direction of some of its lines; it further required it to operate the Bologna-Ancona and Castel Bolognese-Ravenna branches, for which privilege it was made to pay 3,557,758 lire ($686,647) annually to the Roman Railway Company. In 1862, the State had guarantied gross earnings of 29,000 lire ($5,597) per kilometer ($9,004 per mile).

A new system of guaranty was then adopted, *i. e.*, from January 1, 1865, to December 31, 1868, the State agreed to pay a subsidy of 22,000 lire ($4,246) per kilometer ($6,884 per mile), whatever might be the gross earnings during that period. From January 1, 1869, the subsidy was reduced to 20,000 lire ($3,860) per kilometer ($6,259 per mile), and the annual kilometrical gross earnings passed to the company so long as it did not exceed 7,000 lire ($1,351). Whenever this limit should be exceeded, the subsidy was to be diminished 50 per cent of the difference between the gross earnings and the 7,000 lire, and this so long as the gross earnings should not have reached 15,000 lire ($3,667) per kilometer ($5,946 per mile). In a word, the gross earnings in excess of 15,000 lire per kilometer, together with 50 per cent of the difference between said gross earnings and the 7,000 lire, were to be deducted from the Government subsidy.

To compensate for the changes made in the directions of the lines, the company received 500 lire ($96.50) a year per kilometer of the whole system ($158.91 per mile).

The Calabro-Sicilian Railway Company.—The law of 1865 required this company to build and operate a line from Potenza to Conturisi and Eboli.

Sardinian Railway Company.—No changes were made in connection with this system.

Railway system of Upper Italy.—The treaty of peace of October 3, 1866, recognized and confirmed all railway grants made by the Austrian Government on Venetian soil, so the Upper Italy railway system now controlled this important railway in Venetia. The State guarantied to these roads for the year 1866 gross earnings of 91,000 florins per mile, and 1,000 florins additional per mile annually, so long as the guarantied sum did not reach 100,000 florins per mile, equal to 32,548 lire ($6,282) per kilometer ($10,186 per mile). This guarantied sum was not to be exceeded during the terms of the concession.

It was further stipulated in this treaty of peace (1) that the two governments would, as soon as possible, enter into a convention for the administrative separation of the Austrian and Venetian roads; (2) that the two governments would take steps to make the communications between their territories easier by favoring the building of new railroads.

Shortly after this, the Upper Italy Railway Company assumed the management of two new roads—(1) the road from Voghiera to Pavia and Brescia via Cremona, formerly granted to the Italian Southern Railway Company, and (2) the road from Torre-Berretti to Pavia.

In 1870, other important lines were added to the Upper Italy railway system—the line from Florence to Pisa, via Pistoja and Lucca, from Pisa to Massa, from Massa to the French frontier, along the Ligurian shore, with branches to Avenza and Carrara—all of the lines that had been granted to the Roman railway system by the law of May 15, 1865.

The Upper Italy railway system was further to assume the building of the line from Lucca to Viareggio, in case it was determined upon, and, also, to take the management of the line from Savona to Bra, with a branch from Cairo to Aequi, if the Government so required.

By an act of Parliament, August 28, 1870, the Government let out the contract of keeping up and operating these roads to the Upper Italy Company for the period covering the concession to the Roman Railway Company, with the privilege to the State of dissolving the contract at the expiration of ten years. By the same act of Parliament, the Upper Italy Railway Company was empowered to build and operate the section between Bussoleno and Bardonecchia, and to operate that portion of the Mont Cenis tunnel on Italian soil. The same act contained other clauses that should be mentioned. The previous agreements relating to the duration of the concession were modified. The concession of all the lines of the Upper Italy system was now made for ninety-nine years, beginning January 1, 1870, with the privilege to the State of redeeming the roads after twenty-five years from the date of the convention. Other modifications related to taxes on land, buildings, and personal property, and to the repayment of sums paid by the Government to the company by way of guaranty. This repayment was to begin whenever the gross earnings of the three lines—Lombardy, Italian Central, and Piedmont—should reach the sum of 44,000 lire ($8,492) per kilometer per year, and was to be made by devoting to that purpose three-fourths of the gross earnings in excess of the 44,000 lire.

In April, 1873, this company took charge of the railway from Udine to Pontebba.

The Upper Italy Railway Company further assumed the management of other roads, namely, the lines Mantua-Modena, Monza-Calolzio, Cremona-Mantua, Trofarello-Chieri, and Legnago-Rovigo.

The fact that the Upper Italy railway system owned and managed certain lines, and managed other lines without owning them, all connected with each other, and the further fact that there was a great diversity in the guaranties given, consisting of either a fixed minimum interest or in the gross earnings, or in the net earnings, granted either for the entire concession or merely for a few years, caused friction between the Government and the company on account of the many questions that arose. Greater difficulties, however, arose in the many attempts made to bring about an administrative and financial separation between the Italian and the South Austrian systems. Negotiations had been begun as far back as 1861, and, at the instance of the Austrian Government, the general meeting of stockholders, held May 16, 1865, had declared that this separation would take place January 1, 1867, but neither this declaration nor the stipulation contained in the treaty of peace of October 3, 1866, were carried promptly into effect; in fact, it was only in 1873, after both governments had warned the company that unless it obeyed their injunction within six months from April 24, 1873, they would be obliged to resort to legal means to obtain, without further delay, the separation as agreed upon, that the two boards of directors of Turin and Vienna presented to the two governments an identical statement, which, while containing a plan of separation, pointed out its probable hurtful consequences.

The necessity for a separation, and the difficulties of different kinds that would have arisen in consequence, were the principal reasons that led to the convention signed at Basle, November 17, 1875, for the redemption of the roads by the Italian Government.

Thus ended, after a few years of life, the Upper Italy Railway Company. The results of its stewardship, in relation to the finances of the State, may be summed up as follows:

The sum paid by the State as guarantor to the company for the lines belonging to it, as well as for the lines operated by it, amounted to 50,314,083 lire ($9,710,618). Against the sum thus paid should be offset: (1) The sums received by the State during the period from July 1, 1876, to July 1, 1878, from taxes on buildings, land, and personal property amounting to 36,906,907 lire ($7,123,133); (2) receipts derived from taxes on transportation and stamp duties, 75,140,021 lire ($14,502,024); (3) custom-house dues, 10,510,000 lire ($2,028,430); (4) saving on account of transportation at reduced prices, 98,099,113 lire ($18,933,129); (5) saving on account of free transportation of the mails, 39,129,965 lire ($7,552,083); total, 259,-

786,007 lire ($50,138,699). Such were, in a few words, the financial relations between the State and the company.

The relations between the company and the stockholders are shown by the dividends paid on each share of the nominal value of 500 gold lire ($96.50). In 1864, the dividend paid amounted to 40 francs ($7.72); it fell to 37.50 francs ($7.24) during the next two years, and to 33 francs ($6.37) in 1867 and 1868. In 1869, it was 25 francs ($4.93), and in 1870, 15 francs ($2.90). It was 20 francs ($3.86) in 1871 and 1872, and 15 francs ($2.90) in 1873. It finally fell to 7.50 francs ($1.45) in 1874. This falling off was in part due to the manner in which the capital had been constituted. At the organization of the company, the capital consisted of 750,000 shares of the nominal value of 500 francs ($96.50) each. This capital was not increased even when, in 1865, the company assumed new obligations and acquired the entire Piedmontese system. But the company began to issue its interest-bearing duebills, and, little by little, they reached the sum of 236,503,045 lire ($45,645,188), while the capital still remained but 375,000,000 lire ($72,375,000).

It is impossible to determine accurately the cost of building and of the rolling stock of the roads that were redeemed by virtue of the Basle convention, because some of the roads were built a number of years before the Italian Government had come into existence. Taking as a basis, however, the statement contained in the Basle convention namely, that 752,375,618 francs ($145,238,594) had been spent on the Upper Italy railway system up to December 31, 1874, we can arrive at the value on December 31, 1878, of the roads and of the rolling stock formerly operated by the Upper Italy Railway Company, which became the property of the State in the following manner: Lines redeemed by virtue of the Basle convention, 1,984 kilometers (1,233 miles); lines of which the State is co-proprietor, Novi-Alexandria-Piacenza, Turin-Cuneo-Saluzzo, Milan-Vigetano, 380 kilometers (236 miles); total cost 789,957,000 lire ($152,461,701); mean cost per kilometer, 334,585 lire ($64,575); Ligurian and Tuscan lines (Savona-Acqui and Novara-Gossano, 611 kilometers (379.7 miles); total cost 263,808,000 lire ($50,914,944); grand total 2,975 kilometers (1,848.7 miles), 1,053,765,000 lire ($203,376,645).

By the additional clause of the Basle convention, June 17, 1876, the South Austrian Railway Company assumed for two more years, *i. e.*, from July 1, 1876, to June 30, 1878, the management of the roads formerly granted to it, agreeing to pay the State the annual sum of 31,500,000 lire ($6,079,500). The company's charges for operating and keeping up the road and the rolling stock were to be ascertained from the mean corresponding expenses for the three years, 1872–'74.

The condition of the road became worse, nor did the service improve under this temporary management of two years.

The convention for the redemption of the Upper Italy railway system remained famous in railway history, both on account of very serious charges on the finances of the State that resulted therefrom, and because it marked the beginning of the third system of railway management tried in Italy.

The Roman Railway.—Owing to the high rate of interest that prevailed during the years 1865–'67, due to the cramped financial condition of Italy, this company found it impossible to meet its obligations under the convention of June, 1864. The Government attempted at first to help the company by advancing to it 31,000,000 francs in treasury bonds, and undertaking to provide, in behalf of the company, for the building of the Ligurian railway. But these measures did not suffice, and on September 30, 1868, an agreement was entered into between the State and the company by which the latter ceded to the former for 35,000,000 francs ($6,755,000), the Florence-Pistoja-Pisa-Massa line, and furthermore ceded back the Ligurian lines without compensation.

The Committee of the Chamber of Deputies charged with reporting on the agreement of 1868, and ascertaining whether the stipulations it contained were likely to give life to the company, undertook to forecast the earnings, the ordinary and extraordinary expenses, and the subsidies for a period of ten years. But these provisions, whether owing to the insufficiency of the facts on which they were based, or owing to the seat of the Italian Government being removed to Rome, were so far from the actual results that they rendered all effort on the part of the Government to help and consolidate the company well-nigh futile. In fact, the cost of building the Orvieto-Orte, and Laura-Avellino lines, and of operating the other lines which had been fixed by parliamentary committee at 11,657,182 francs ($2,249,836), reached the sum of 42,063,336 francs ($8,118,224).

The cost of purchasing the rolling stock, which had been put down at 2,681,386 francs ($517,507), proved to be 11,245,278 francs ($2,170,339); the cost of repairs to tracks, fixed at 5,473,138 francs ($1,056,316), reached the sum of 18,528,553 francs ($3,576,011). The probable expenses for the nine years, 1870–'78, which had been fixed at about 20,000,000 francs ($3,860,000), reached 72,000,000 francs ($14,896,000).

The company declined to submit itself to these expenses, arguing that it was not obliged, without further compensation, to carry on work and to make outlays that had been brought about by a condition of things that could not have been foreseen when the agreement of 1868 was made. The company instituted judicial proceedings against the Government, but they were stopped by negotiations which were opened for the retrocession of the roads, which led to the convention of November 17, 1873. This convention, for the retrocession of the Roman railways, was presented by the Government to the Chamber of Deputies at the sitting of May 2, 1874; again on December 10, 1874; again on March 9, and November 22, 1877, and was finally approved by act of Parliament of January 29, 1880, leaving the retrocession in operation and the management of the roads unchanged until December 31, 1881.

In the ministerial report, the cost of the Roman railway (to serve as a basis in the retrocession) was estimated at 471,674,312 francs ($91,033,142), the length of the roads being 1,614 kilometers (1,002.9 miles). In this amount are included 50,000,000 francs ($9,650,000), estimated as necessary to complete the network, as well as 36,806,386 francs ($7,103,633) required to build the Asciano-Grosseto, Cancello-San Severino, Naples-Ceprano lines, which work was done by the Government.

The Minister of Public Works estimated the gross earnings of this system for the year 1878 at 26,697,000 francs ($5,150,721), and the ordinary and extraordinary operating expenses at 20,022,750 francs ($3,864,391), which figures would give net earnings of 6,674,250 francs ($1,288,030), and hence 1.42 per cent interest on the price of redemption. But, to estimate the net earnings correctly, account must be taken of transportation at reduced prices, and transportation furnished to the State, as well as of general and special taxes paid by the company, these items amounting for the year 1878 to the following sums: Transportation, 4,399,224 lire ($849,050); taxes, 6,765,407 lire ($1,305,724); total, 11,164,631 lire ($2,154,774).

Lastly, it should be recollected that the mean of the kilometrical subsidy of the Italian roads, of the net guarantied earnings of the Pontifical lines, and the mean savings of the company on account of exemption from certain taxes reached annually the sum of 16,628,943 francs ($3,209,386) for the ten years 1869–'78.

Italian Southern Railway.—The guaranty and the subsidy granted to this system by the law of May, 1865, placed it in condition to build and operate the greater portion of the roads conceded to it, and to meet its financial engagements, paying a 5 per cent dividend regularly. This company brought its gross earnings up to 15,000 francs ($2,895) per kilometer ($4,693 per mile) by reducing its charges, which previously had been very high. As, however, under the agreement with the Government in 1865, it had been stipulated that whenever the gross earnings should exceed 15,000 francs ($2,895), per kilometer ($4,693 per mile), the company would be obliged to pay the running expenses without receiving any bonus from the Government, the company no longer sought to develope its traffic beyond that figure, so the gross earnings remained at about 15,000 francs.

By act of Parliament of December 30, 1871, the Italian Southern Railway Company was to operate the Calabro-Sicilian lines already built, or to be built, for fifteen years for and on account of the State. In return, the company was to receive on the gross earnings 4 per cent up to 10,000 francs ($1,930), per kilometer ($3,129 per mile), 3 per cent up to from 10,000 to 15,000 francs ($1,930 to $2,893), 2 per cent on the gross earnings above 15,000 francs, and 5 per cent on the net earnings.

The act of Parliament of July, 1881, granted to the Italian Southern Railway Company the right to build and operate the lines from Rieti to Termi, from Aquila to Rieti, and from Benevento to Campobasso, with an annual subsidy of 20,500 francs ($3,957) per kilometer (0.6214 mile), and 18,500 francs ($3,570) for the line from Termoli to Campobasso. It was stipulated that all receipts exceeding the sum of 15,000 francs ($2,893) per kilometer for the whole system were in the future to be divided, 40 per cent to go to the Government and 60 per cent to the company.

Propositions were also made for the retrocession of the Italian Southern to the Government, but they fell through. It had been stipulated by the agreement of April, 1881, that the Government should have the right to redeem the Italian Southern.

The Calabro-Sicilian railway system.—We have already seen that the contract for the building of these roads had been given to the Victor Emanuel Railway Company. This company, although assisted on various occasions by the Government, was unable to fulfill its engagements, so the law of August, 1868, substituted in its place the Vitali, Picard & Charles Construction Company, subject to the following conditions: (1) To complete the lines already opened to traffic, making their total length 149 kilometers (92.6 miles); (2) to build 491 kilometers (305 miles) of road in addition; (3) to continue, up to the end of 1870, to operate the roads already built, and, also, to operate all sections of road as fast as they should be built.

The Victor Emanuel Railway Company was authorized to issue 175,000 bonds of 3 per cent of 500 francs ($96.5) each, which, with the 309,050 bonds already issued, made a total of 484,050 bonds, which the Government guarantied, withholding to itself the gross earnings and the subsidies due.

The Government gave 196,111 of the 484,050 bonds to the construction company in payment for the completion of the roads alluded to above, 143,050 bonds remained in circulation, 666,666 bonds were given to the stockholders of the Victor Emanuel Company upon its dissolution, and 78,223 bonds were given to the Vitali, Picard & Charles Company, which assumed the debts of the Victor Emanuel Company.

The law of August 28, 1870, authorized the construction of the remaining lines of the Calabro-Sicilian system, and the law of December 30, 1871, already quoted, granted the management of the lines already built, and of those still to be built, to the Italian Southern Railway Company for fifteen years at the expense and on account of the State. The company received in return 4 per cent of the gross earnings up to 10,000 francs ($1,930), per kilometer (0.6214 mile), 3 per cent from 10,000 to 15,000 francs ($1,930 to $2,893), 2 per cent on the gross earnings above 15,000 francs, and 5 per cent of the net earnings.

Sardinian Railway Company.—The existence of this company was little more than nominal, due to the difficulty met with by the Government in consigning to it the 500,000 acres of public lands previously granted. Negotiations were entered into by the Government and the company with a view of modifying the terms of the concession. By act of Parliament of August 28, 1870, the Government was relieved from delivering over the public lands, but agreed to raise the guaranty on the net kilometrical earnings from 9,000 to 12,000 francs ($1,737 to $2,316). This act divided the

Sardinian lines into two portions, and fixed two dates for the completion of the roads. The company built about 197 kilometers (122.4 miles) within the prescribed time.

The act of Parliament of June 20, 1877, gave the company a subsidy based on the sliding-scale system: For gross earnings not greater than 7,000 francs ($1,357), the Government subsidy was to be a fixed sum of 14,800 francs ($2,568.40) per kilometer, less one-half of the difference between the actual gross earnings and the 7,000 francs. Whenever the gross earnings should exceed 7,000 francs, the fixed sum of 14,800 francs was to be diminished 54 per cent of the difference between the actual gross earnings and the 7,000 francs.

The company was required to reorganize on a new basis, and was allowed to issue 3 per cent stock of the nominal value of 500 francs ($96.50) each, fundable within ninety-nine years.

The St. Gothard Railway.—The law of July 3, 1871, ratified the convention entered into at Berne, in October, 1869, and modified January 27, 1871, between Italy, North Germany, and Switzerland, by which these countries were to divide the cost of building the St. Gothard Railway. The subsidy was fixed at 85,000,000 francs ($16,405,000); Switzerland to contribute 20,000,000 francs ($3,960,000); Italy, 45,000,000 francs ($8,695,000); and the North German Confederation 20,000,000 francs ($3,960,000). In case the road paid more than a 7 per cent dividend, the three countries were to divide one-half of the profits in excess in proportion to the subsidy of each. By the treaty of March 12, 1878, the subsidy was increased by 28,000,000 francs ($5,404,000); Germany subscribing 10,000,000 francs ($1,930,000); Italy, 10,000,000 francs, and Switzerland, 8,000,000 francs ($1,544,009).

Minor railroad lines.—The Government also granted charters to private parties to build and operate railways, sometimes without promising any guaranty, sometimes guarantying a fixed relation between the operating expenses and the gross earnings, sometimes granting a kilometrical subsidy of 1,000 francs ($193) for thirty-five years from the date of opening the line to traffic, sometimes guarantying the gross earnings, and sometimes making a subsidy based on the sliding-scale system. The greater number of these minor lines were operated by the great companies. Of those operated by the grantees, I may mention the Vicenza, Treviso, Padua-Bassano, Vicenza-Schio, Milan-Saranno, Milan-Erba, and the Palermo-Marsala-Trafani lines.

RAILROAD MANAGEMENT BY THE STATE.

After the convention for the redemption of the Upper Italy railways had been approved, the Government introduced a bill March 7, 1876, to inaugurate governmental management of all Italian railways. This bill was discussed at length in the Chamber of Deputies, and direct governmental management was rejected, article 4 of the law of June 21, 1876, prescribing that—

> The King's Government should present at the next session, or, in any event, during the year 1877, a bill to cede the management of the State railways to private parties.

The bill was presented, and was based on the redemption not only of the Roman railways, but also of the Italian Southern, and the creation of two great companies to manage the roads, but owing to the political crisis that soon occurred, the Chamber of Deputies did not take up the bill.

At the expiration of two years, during which the South Austrian Railway Company had operated the Upper Italy roads (redeemed by the State), a parliamentary committee was appointed July, 1878—

> To inquire and ascertain to what extent the different systems of railway management, followed up to date, and the conditions on which the leases have heretofore been made have worked in the interest of the State, and to further ascertain the best plan for letting out the management of the roads to private parties.

In the meantime, the Upper Italy roads were to be operated by the Government up to June 30, 1880, through a board of directors, subject to the Minister of Public Works.

Later, the Government assumed the management of the Roman railways, and this direct management was continued by prolongation semiannually.

The parliamentary committee on railways presented its report, in which were embodied the views of business men. The arguments in favor of and against governmental management, and the arguments in favor of and against the management of the railways by private parties, were fully set forth in this report. The committee, after carefully weighing these arguments, decided unanimously (a full committee of fifteen being present), that it was preferable to intrust the management of the Italian railways to private enterprise. The report was finally adopted and became the law April 27, 1885. The substance of this law is given further on.

PRESENT CLASSIFICATION OF RAILWAYS.

(1) *Repartition of the roads.*—The original repartition of the railways was due partly to the date of the building of the lines, and partly to the traditional division of the peninsula into northern, central, and southern Italy. The law of 1885 made a new repartition. The Sicilian railways now constituted a system to themselves (597 kilometers = 371 miles). The continental roads were divided into two longitudinal lines called the Mediterranean (3,972 kilometers = 2,468 miles), and the Adriatic (3,848 kilometers = 2,392 miles), from their greater or less proximity to the two seas that wash the shores of Italy. All complementary roads, whether completed or not, but already decreed by the laws of July, 1879, and July, 1882, were to be incorporated with the nearest line.

By virtue of the new repartition of the seventy lines in operation belonging to the Upper Italy system, forty passed to the Mediterranean (2,078 kilometers = 1,291 miles), and twenty-eight to the Adriatic (1,780 kilometers = 1,106 miles). Of the eighteen lines belonging to the Roman railway system, twelve passed to the Mediterranean (1,063 kilometers = 652.5 miles), and six to the Adriatic (1,780 kilometers = 1,106 miles). Of the Italian Southern railway system, twelve lines (1,725 kilometers = 1,073 miles), passed to the Adriatic, and seven lines (169 kilometers = 105 miles), to the Mediterranean. Of the Calabro-Sicilian system, the lines (599 kilometers = 371 miles) on the island of Sicily passed to the Sicilian system, and those on the continent (736 kilometers = 457 miles) to the Mediterranean.

(2) *Management.*—Up to July 1, 1885, as has been seen, the Upper Italy and Roman railway systems had been operated by the Government. The Italian Southern system was operated by a company for and on account of the Government, and this company operated the Calabro-Sicilian system on its own account. The State managed 7,152 kilometers (4,444 miles) out of a total of 8,901 kilometers (5,731 miles); the balance, 1,749 kilometers (1,088 miles), was managed by private parties.

The law of April, 1885, substituted for this arrangement a new and uniform system of management by private companies under the supervision of the State, the State receiving a certain proportion of the gross earnings, and eventually of the net earnings, devoting a portion of them to the keeping up and extending of the roads and their rolling stock.

The first and greatest problem, in making this reform, was the division of the property partly owned by the State and partly by the Italian Southern. A sole management was impossible as long as there were two owners. It therefore became necessary that the Italian Southern should renounce its rights as lessor of the roads granted to it; but it was also necessary to preserve the company's legal existence, so that it might assume the management of one of the new systems (the Adriatic), and at the same time receive a fair interest on the capital invested in the building of its roads. Under the old contract with the Government, when the Italian Southern operated the roads, it received annually a fixed amount to pay the interest on the capital employed in building the roads, and a further fixed amount as compensation for operating them. The State now pledged itself to pay the company for the period during which its old contracts were to run a subsidy equal to the sum first alluded to above, less 200 francs ($39.60) per kilometer ($64.20 per mile), the latter amount representing such repairs as would fall to the owner to pay. The company turned over certain of its roads to the Mediterranean, assuming the management of the remaining roads and of such others as, when taken together, formed the Adriatic system.

In this way the State reorganized the railway service, placing it in the hands of private parties, giving it uniformity, and apportioning the roads in a manner better adapted to the economical and commercial interests of the country.

This new contract, approved by Parliament April 27, 1885, was made for the term of sixty years, divided into three periods of twenty years each, with the privilege to all parties of withdrawing from it at the expiration of each period, upon two years' previous notice.

The two great companies—the Mediterranean and the Adriatic—are now rnnning the roads with the rolling stock, railway supplies, and fixtures sold to them by the State. Special commissions, composed of two delegates named by the State, two by the companies, and one by the court of appeals at Rome, were appointed to estimate the value of rolling stock, etc. The estimates of the commissions were:

Description.	Number.	Value.	
		Lire.	
Locomotives	1,871	82,287,312	$15,881,451
Passenger coaches	5,340	30,594,952	5,904,826
Freight cars	30,912	91,984,516	7,753,012
Total		204,866,780	39,539,289
Railway supplies		64,201,310	12,390,852
Grand total		269,068,090	51,930,141

As the companies paid 269,068,090 francs ($51,930,141) for rolling stock, etc., they set apart annually 15,348,550 francs ($2,962,270) to pay the interest (5 per cent) on the same. The stockholders of the Mediterranean received 7,820,000 francs ($1,509,260), those of the Adriatic 6,660,000 francs ($1,285,380), and those of the Sicilian roads 868,550 francs ($167,630).

The ordinary and extraordinary expenses of the roads fall on the companies, which are obliged to (1) keep always on hand a quantity of coal sufficient to run the roads for four months at least; (2) to supply side tracks to industrial establishments; (3) to furnish the necessary offices for Government officials charged with the inspection of the management, and suitable premises for custom-house officers, police officers, and the military station commander; (4) to employ Italians exclusively, giving the preference, other things being equal, to soldiers or sailors who shall have served eight years in the army or navy, and reserving for them one-third of the positions, as they become vacant, if they shall have attained the rank of noncommissioned officers; (5) to turn over the management to the Government in case of war, or preparations for war, and to assist in every way in arranging the schedules; (6) to extend the greatest facilities possible to the military authorities to study railroad management, and to place as many coaches and cars at their disposal as may be compatible with the railroad service; (7) to assume all the obligations and engagements made by the Government to third parties relating to the management of the roads; and (8) to furnish a satisfactory service to the public, introducing such improvements as are specially required by certain localities, or that experience on other roads, either national or foreign, shall have shown to be advisable.

As to the number of trains, the lines of each system are divided, under the agreement, into two categories: (1) Lines opened prior to January 1, 1884, and (2) lines opened after January 1, 1884. On the first-mentioned lines, the total number of miles run by trains can not be diminished from what it was prior to the contract with the Government, but in case, by the opening of a new line, the kilometrical earnings of one of the old roads shall fall off in passenger traffic and fast freight 3,000 francs ($579), as compared with the year preceding the opening of the new road, then, and in that case, the number of passenger and mixed trains may be reduced by two trains, provided, after this reduction, there shall remain three trains each way. The same restriction is also imposed on the lines opened since 1884, whatever may be their earnings, two years after their opening if they belong to category 1, as established by the law of July, 1879, and, also, if their kilometrical earning capacity be 15,000 francs ($2,895), should they belong to an inferior category. The Government has also the right to require the companies to put on two additional trains on all lines which run fewer than four couples of trains whenever the kilometrical earnings from passenger traffic and fast freight exceed, by 3,000 francs, the earnings of the year preceding the signing of the contract. When any line shall have earned from fast-freight traffic, 6,000 and 9,000 francs ($1,158 and $1,737), respectively, then it shall be required to run three and four couples of trains, respectively. On the other hand, those lines that have been opened since January 1, 1884, are required to run but two couples of trains, if, after one year's experience, the total earnings do not amount to 6,000 francs ($1,158) per kilometer (0.6214 mile).

TARIFFS.

The two great companies—the Mediterranean and the Adriatic—are required to establish general and special freight tariffs uniform for both systems. The Sicilian system is allowed to charge higher rates than the continental lines.

The companies incur the responsibility of common carriers, as defined by the commercial code, whenever they transport freight under the general tariff. When they transport freight at reduced rates (lower than those of the general tariff), the companies do not answer for any loss that may arise from delay in delivering the freight, except when the delay has been occasioned by fraud or gross negligence.

The freight rates are regulated by a series of special tariffs for fast freight, slow, and intermediate, or accelerated slow freight. Intermediate slow-freight rates apply only to shipments by the carload.

Tariff rates lower than the general and special tariff rates have been made for certain mineral, agricultural, and industrial products, such as coal, building material, brimstone, grain, wine, oil, hemp, fruit, flour, and sugar. These rates are known as local rates because they apply to transportation from or to localities where the production and the consumption of the merchandise is greatest.

General tariffs make no reduction for a long haul, but when shipments are made under special and local tariffs, the great lines reduce the price per kilometer as the distance increases, by zones of from 50 to 100 kilometers (31.07 to 62.14 miles).

The rates fixed by these general, special, and local tariffs can not be increased, except by law. The rates can, however, be lowered by way of experiment, and can be so definitely established by the consent of the Government and of the companies. They can be lowered simply by an order of the Government, but in this case, the roads have a right to be indemnified for any loss incurred by the suspension of the tariffs agreed upon when the original contract was made with the Government.

COMPULSORY REDUCED RATES.

Under their contract with the Government, the companies are required to pass free all public functionaries commissioned to direct and inspect the management of the lines, army commissaries, custom-house agents on duty, the personnel engaged in erecting and repairing the telegraph lines that follow the railways, together with the requisite materials, the mails, and the mail-route agents.

The companies are required to provide transportation at reduced rates to soldiers, sailors, and gendarmes, when on duty; voters repairing to their respective precincts; the veterans who mount guard at the tomb of Victor Emanuel; indigent poor sent to the hospital by charitable societies; guards and police agents on duty, together with their prisoners; general Government and provincial employés and their families; the families of soldiers, sailors, and gendarmes, when changing their residence; scholars and the personnel of Government schools when traveling in company; members of charitable associations which care for the sick or for the gratuitous education of the poor; theatrical companies; custom-house officials and gangs of laborers going to or returning from work; persons on their way to attend a congress; members of the Alpine Club when there are at least twelve in the party; members, when in a party, of the Gymnastic Federation.

The companies are further required to make reduced rates for the transportation of war material, articles of which the Government holds the monopoly, postal packages, Government telegraph material, Italian emigrants returning to their homes, workingmen traveling in bodies, race horses and breeding stallions, cattle shipped for the improvement of breeds, trees to supply buds when shipped to agricultural societies, and young forest trees for transplanting.

The companies have other duties to perform concerning the postal and telegraph service along their lines.

For the performance by the companies of the above-mentioned duties, the contract with the Government assigns to them 62½ per cent of the gross earnings of the Mediterranean and Adriatic systems, and 82 per cent of the Sicilian system, provided the gross earnings do not exceed 112,000,000 francs ($21,616,000) for the first system, 100,000,000 francs ($19,300,000) for the second, and 8,500,000 francs ($1,640,500) for the third. These amounts are known as the initial earnings of the roads.

When the gross earnings exceed the initial earnings, the two continental companies receive only 56 per cent of the excess, and the Sicilian company 72 per cent. When the gross earnings of the Mediterranean system exceed 162,000,000 francs ($31,266,000), the company receives but 50 per cent of the difference between the latter sum and the 112,000,000 francs ($21,616,000). When the gross earnings of the Adriatic exceed 15,000,000 francs ($2,895,000), the company receives but 50 per cent of the difference between the latter sum and the 100,000,000 francs ($19,300,000). Finally, when the gross earnings of the Sicilian system exceed 15,000,000 francs ($2,895,000), the company receives 62 per cent of the difference between the latter sum and the 8,500,000 francs ($1,640,500). After deducting from the gross earnings what belongs to the companies and a further sum that passes to the reserve fund, the remainder goes to the State.

When the companies realize from their management of the roads net earnings above 7½ per cent on their capital invested in rolling stock, etc., and represented by shares, the Government comes in for one-half of the amount in excess.

RESERVE AND PATRIMONIAL FUNDS.

The companies did not, under the contract with the Government, assume any responsibility for damages to the roads from providential causes, or for the renewal of the rails and rolling stock, or for the doubling of the tracks in case business demanded it. To meet these demands, a reserve fund, with a fixed endowment, and a patrimonial fund with an eventual endowment, depending on gross earnings greater or smaller than the initial earnings have been established.

The reserve fund is divided into three parts: (1) The reserve fund, to meet damages from providential causes, is derived from an annual assessment of 200 francs ($39.60) per kilometer (0.6214 mile) on the gross earnings, and is devoted first, to repairing all damages to the roads not caused by carelessness on the part of the company, and secondly, to building new works to prevent the recurrence of such damages; (2) the reserve fund for the renewing of the rails is derived from an annual assessment on the gross earnings of 150 francs per kilometer on single-track roads and 200 francs on double-track roads, from an assessment of one-half per cent of the gross earnings in excess of the initial earnings, and from the sale of old rails; this fund is used exclusively for the renewal of tracks laid with steel rails; (3) the reserve fund for the gradual renewal of the rolling stock, this fund being derived from one-quarter of one per cent of the initial gross earnings and one-half of one per cent of the gross earnings in excess of the initial earnings, and the proceeds of the sale of rolling stock no longer serviceable.

The patrimonial fund begins to receive an endowment when the actual gross earnings of a line begin to exceed the initial earnings. The necessity for widening the roadbed, putting down a double track, enlarging the station houses, etc., is brought about by an increase in the traffic, and when this occurs the fund begins to receive its endowment. The endowment is derived (1) from 15 per cent of the gross earnings in excess of the initial earnings, and (2) from the proceeds of sale of unserviceable material. The sum thus realized goes to paying the interest on and the taking up of the 3 per cent railway duebills which the companies must issue in order to carry on the improvements just mentioned.

It was expected that, under these contracts, not only would the expenses of the roads be met, but that the State treasury would receive at least 27½ per cent of their gross earnings, and ultimately more.

At the expiration of these contracts, all sums belonging to the reserve fund and to the patrimonial fund fall to the State. These funds are managed by the companies without charge and under Government supervision.

Such is the substance of the general provisions of the act of Parliament of April 27, 1885, by which it was hoped to reconcile the interests of the public, the companies, and the State, assuring to the latter a certain return and relieving it of a complicated administration, in great part industrial in character.

COMPLEMENTARY ROADS.

The roads opened prior to 1884 constituted the old lines—Upper Italy, Roman railways, Italian Southern, and Calabro-Sicilian, whose earnings and expenses had been ascertained, but under the contract with the State the two great companies—the Mediterranean and the Adriatic—agreed to operate the complementary roads as fast as they were completed and opened to traffic.

The earnings and running expenses of the roads (called secondary roads) were, of course, matter for speculation. Then it was settled that a temporary status for the two years would be created for the roads belonging to the first category, but this temporary condition would continue for the other roads so long as their actual kilometrical gross earnings had not reached 15,000 francs ($2,895). In the meantime, the companies received in return for operating the roads 300 francs ($579) per kilometer (0.6214 mile), plus 50 per cent (the Sicilian system receiving 65 per cent), of the earnings; the remainder passes to the State, which obligates itself to make the prescribed contributions to the reserve and patrimonial funds as in the case of the other roads.

PERSONNEL.

The contract required the companies not only to retain all the employés with the same pay and rank, but also to improve their condition by establishing promotion according to term of service, and by increasing, by two-thirds, the contribution made by the previous administration to the pension and aid funds for employés.

There is a pension fund and a mutual aid fund for railroad employés. The employés, the companies, and the State contribute to these funds. The latter devotes the 2 per cent of that portion of the excess of the gross earnings over the initial earnings to which it is entitled. The net proceeds from the sale of time-tables, from articles found in the stations and coaches, and from unclaimed goods go to swell these funds.

The number of employés that passed to the service of the new companies was 77,262, drawing a total pay of 73,906,538 francs ($14,263,963).

Inspectorate-general.—The law of October, 1885, created an inspectorate-general of railways under the orders of the Minister of Public Works. The powers and duties of the inspectorate-general are: (1) To give out contracts for the building of roads; (2) to supervise the management of the roads in the interest of the public and of the State treasury; and (3) to inspect the books of the company.

There is one inspector-general, assisted by eight inspectors. There is, also, a committee on finance. From 250 to 300 civil engineers are attached to the inspectorate.

The inspectorate publishes a monthly bulletin of railroad earnings, an annual report on the management and building of the railroads, and the annals of the railroad tariff commissions.

Tariff commission.—This commission studies the demands of commerce, industry, and agriculture, as related to the railroads. It is composed of members representing agricultural industry, commerce, and the railroads, and is presided over by the Minister of Public Works.

Boards of arbitration.—There are three such boards, one for each great line. They pass upon and decide all controversies that arise between the State and the companies as to the interpretation of the contracts.

RECENT RAILWAY BUILDING.

The law of July 29, 1879, provided for the construction of secondary or complementary railway lines, divided into first, second, and third categories.

First category.—The following lines were to be built for and on account of the State: (1) Novara to the Swiss frontier, near Pino, via Sesto Calende; (2) Rome to the Salmona-Aquila line; (3) Parma to Spezia, with a branch to Sarzana; (4) Faenza-Pontassieve; (5) Terni-Rieti-Aquila; (6) Campobasso-Benevento; (7) Codola-Nocera; (8) Reggio (Calabria) Paola, Castrocucco to the Eboli-Romagnano line, and from Castrocucco to the Eboli-Salerno line.

Second category.—The following lines were to be built by the State, the provinces through which the roads were to pass obligating themselves to pay one-tenth of the cost of construction: (1) Bassano-Primolano; (2) Aosta-Ivrea; (3) Gozzano-Domodossola; (4) Cuneo-Nizzia, via Ventimiglia; (5) the Giovi line; (6) Sondrio-Colico-Chiavenna; (7) Belluno-Feltre-Ireviso; (8) Macerata-Albacina; (9) Ascoli-San Benedetto; (10) Teramo-Giulianova; (11) Avezzano to the Ceprano-Roccasecca line; (12) Campobasso-Termoli; (13) Benevento-Avellino; (14) Cosenza-Nocera Tirrena; (15) from the seashore near Catanzaro to Catanzaro; (16) Taranto-Brindisi; (17) Messina-Patti; (18) Siramsa-Licata; (19) Adria-Chioggia. The quota to be contributed for each line by the several provinces was to be divided between the latter according to the interest that each province had in any particular line.

Third category.—The following lines were to be built by the State, the provinces through which the roads were to pass obligating themselves to pay one-fifth of the cost of construction: (1) Novara-Varallo; (2) Chivasso-

Casale; (3) Carmagnola-Bra; (4) Cuneo-Mondovi; (5) Vercelli-Mortara-Cava-Manara-Bressana-Broni, and its extensions Stradella and Pavia; (6) Airasca-Cavallermaggiore; (7) Lecco-Como and Aronco-Ponte San Pietro Sergeno; (8) Parma-Brescia-Iseo; (9) Mantua-Legnago; (10) Mestre-San Dona-Portogruaro; (11) Bologna-Verona; (12) Ferrara-Ravenna-Rimini, with branches from Lavezzola to Lugo; (13) Gaiano-Borgo San Domino; (14) Pionebino-Cornia; (15) Lucca-Viareggio; (16) Aulla-Lucca; (17) Viterbo-Atligliano; (18) from Frascati station to the city; (19) Velletri-Terracina; (20) Cajanello-Isernia; (21) Sparanise-Carinola-Gaeta; (22) Salerno-San Severino; (23) Foggia-Lucera; (24) Foggia-Manfredonia; (25) Candela-Finmara d'Atella; (26) Ponte Santa Venere-Avelino; (27) Ponte Santa Venere via Venosa-Altaneura and Gioja; (28) Solmona-Isernia-Campobasso; (29) Finmara d'Atella to the line Eboli-Potenza; (30) Zollino-Gallipoli and from the station Gallipoli to Porto; (31) Valsa Voja-Caltagirone; (32) Ceva-Ormeo; (33) Sant' Arcangelo-Urbino-Fabriano; (34) Legnago-Mouselice; (35) Gallarate to a point of the Pino-Novara line, above Sesto-Calende; (36) Portogruaro-Cæsarsa-Spilimbergo-Gemena-Treviso-Motta.

With regard to the roads belonging to the second and third categories, the provinces are authorized to levy on the communes directly benefited by the roads a sum not greater than a third of their own respective quotas.

By this law of July 29, 1879, the Government was authorized to build 1,530 kilometers (950.74 miles) of secondary railways (known as category No. 4) whenever, in its judgment, the necessity for such roads existed, and the provinces and the communes, either isolated or in conjunction, proved that they possessed the means to contribute toward the building of the roads, and agreed to make such contribution. Under this agreement, they were to pay four-tenths of the cost of the lines up to the first 80,000 francs ($15,440) per kilometer, three-tenths of the next 70,000 francs ($13,510), and one-tenth of any further amount. By the same law, the Government was further authorized to grant, by royal decree, railway charters according to the rules and regulations laid down in the law of June 29, 1873.

The entire ownership of the roads built by the State, under the law of 1879, remains vested in the State. The Government provides for the operating of the lines, and after deducting all expenses from the gross earnings and 10 per cent for the use of the rolling stock, divides up the remainder between the provinces and communes according to the quotas contributed by them to the building of lines of the second, third, and fourth categories.

When a line has been opened to the public for thirty years, the Government can free itself of the obligation to make a division of the funds as above described by paying to the provinces and communes a sum equal to their quotas contributed for the building of the line. When the provinces and communes come forward and offer to advance, without interest, the quota that the State is to furnish, the lines for which such advance is tendered take precedence in the order of construction. The State is to return the advance by ten annual payments, without interest. During this period, the provinces and communes receive the net earnings diminished annually in proportion to the amount refunded by the State. It was provided that such roads as could not form part of a principal line or system should be built and operated in a more economical manner.

The Government can, if it sees proper to do so, reduce the gauge of lines of the second, third, and fourth categories, provided the operating of these lines does not interfere with that of the trunk lines. The track of these lines can be laid on the bed of the national highways, provided a width of road of not less than five meters (16⅓ feet) is left for wagons and teams. The same proviso applies also to provincial and commercial highways.

The Government can grant to private parties the building and operating of narrow-gauge roads belonging to the second, third, and fourth categories whenever the operating of such lines in no wise interferes with the operating of the trunk lines, and provided no greater burden thereby results to the finances of the State than that established for lines of the above-mentioned categories.

Upon the request of the provinces and communes, the Government may allow them to build such lines of the fourth category as are to be narrow-gauge lines, the Government still contributing its share toward the construction. The grantees obligate themselves to build, equip, and operate these lines at their own expense and risk. Such grants can not be made for a period longer than ninety years.

The sum of 1,260,000,000 francs ($243,180,000) was voted by Parliament for the building of railways contemplated by the law of 1879, for the satisfaction of obligations entered into relating to roads authorized by preceding laws, and for the purchase of rolling stock for the new lines. This was chargeable to the account of the Ministry of Public Works from 1880 to the year 1900, so that the annual appropriation should amount to 60,000,000 francs ($11,580,000).

To meet the charges against the State for the continuation and the payment of railroad building already authorized, and for the running expenses of roads already in operation, the sum of 169,398,817 francs ($32,693,972) was appropriated. The sum of 430,000,000 francs ($82,990,000) was set apart for the building of the lines of the first category for and on account of the State.

The total contribution of the State for the building of the lines belonging to the second, third, and fourth categories was fixed at 618,993,720 francs ($119,465,788). The law of July 5, 1882, divided this fund as follows: Lines of the second category, 265,066,600 francs ($51,157,854); lines of the third category, 259,797,120 francs ($50,140,844); lines of the fourth category, 94,130,000 francs ($18,167,090); total 618,993,720 francs ($119,465,788). Adding to the State's contribution of 265,066,600 francs ($51,157,854) for the lines of the second category the contribution of the provinces of 29,454,067 francs ($5,684,635), we have the total cost of lines of the second category, 294,520,667 francs ($56,842,489) for a mileage of

1,308 kilometers (812.8 miles). Adding to the State's contribution of 259,797,120 francs ($50,140,844) for the lines of the third category, the contribution of the provinces, amounting to 64,940,280 francs ($12,515,211), we have the total cost of the lines of the third category—324,746,400 francs ($62,676,055) for a mileage of 2,066 kilometers (1,284 miles). The calculation of the cost of lines of the fourth category has not been given.

The loan and deposit bureau opened a railroad account guarantied by the State, and issued bonds for the purpose of raising sufficient funds to enable the State, the provinces, and the communes to meet their obligations under the law of 1879. The Minister of the Treasury was empowered to issue and sell annually through the loan and deposit bureau enough 5 per cent bonds to run seventy-five years, to bring into the State treasury the sum of 60,000,000 francs ($11,580,000) and the amount required to be advanced by the provinces and communes.

The law of July 24, 1887, empowered the Government to issue 3 per cent ninety years' railway duebills of the nominal value of 500 francs ($96.50) each, to provide for the current expenses of the railways.

The principal new dispositions concerning railroad building, approved subsequent to the law of July 9, 1879, will now be considered.

The law of July 5, 1882, authorized the Government to study such railways as are necessary for the defense of the State, and which were not contemplated by the law of July 29, 1879, and, further, to consider the question of a submarine railroad under the Straits of Messina, to connect the Sicilian roads with those of Calabria.

The law of March 22, 1885, authorized the Government to cede, by royal decree, to private parties the building and operating (at their risk) of narrow-gauge roads that were to be built in the island of Sardinia. The grant was for the period of sixty years. To offset the cost of construction and of operating the lines, the grantees were to receive during the sixty years an annual kilometrical subsidy not greater than 10,500 francs ($2,026.10=$3,284.31 per mile). The earnings of the lines were to go to the grantees up to 2,000 francs ($386) per kilometer ($625.86 per mile); 40 per cent of any greater return was to pass to the State.

The provinces interested in the lines contribute one-tenth of the cost of construction, but the subsidy can in no case exceed 14,000 francs ($2,702) for each kilometer ($4,379 per mile) of road opened to traffic. The State furnishes the subsidy.

The law of April 27, 1885, which approved the railway grants, prescribed that a portion of the funds which the grantees of the three great trunk lines were to have turned over to the State in payment of rolling stock and railroad supplies was to go toward the building of complementary lines.

The law of July 24, 1887, authorized an additional expenditure of 121,000,000 francs ($22,353,000) over and above the amount voted by law in ·879 for the completion of certain lines, the estimates for the building of which had fallen much below the actual cost of the work, as the following table will show:

Estimated cost and additional outlay necessary for completion.

Lines.	Estimated cost (exclusive of rolling stock).		Actual and estimated cost to bring to completion.	
First category:	*Francs.*		*Francs.*	
Novara-Pino	20,000,000	$3,860,000	44,500,000	$8,588,500
Cedola-Nocera	600,000	115,800	900,000	173,700
Succursale dei Giovi	21,000,000	4,053,000	64,000,000	12,352,000
Total	41,600,000	8,028,800	109,400,000	21,114,200
Second category:				
Aosta-Ivrea	14,350,350	2,769,217	22,500,000	4,342,500
Sondrio-Colico-Chiavenna	8,447,572	1,630,381	10,300,000	1,987,900
Bellinno-Feltre-Tresiso	8,610,210	1,661,771	15,000,000	2,895,000
Ascoli-San Benedetto	2,870,070	553,924	5,500,000	1,061,500
Adria-Chioggia	3,444,084	664,708	7,400,000	1,428,200
Total	37,722,286	7,280,401	60,700,000	11,715,100
Third category:				
Novara-Varallo	5,603,000	1,081,379	8,900,900	1,717,700
Bra-Carmagnola	1,703,312	328,740	2,000,000	386,000
Vercelli-Mortara-Pavia	6,275,360	1,211,144	7,800,000	1,505,400
Airasca-Cavallermaggiore	2,868,736	553,666	4,800,000	926,400
Mantua-Legnano	3,872,793	747,449	5,700,000	1,100,100
Viterbo-Attigliano	4,751,344	917,009	7,300,000	1,408,900
Frascati	645,466	124,575	800,000	154,400
Foggia-Manfredonia	2,510,144	484,458	3,500,000	675,500
Zollino-Gallipolli	2,689,440	519,062	3,400,000	656,200
Legnano-Monselice	4,392,752	847,801	7,600,000	1,466,800
Gallarate to Pino-Novara	5,827,120	1,124,634	13,500,000	2,605,500
All other lines	....	....	6,061,753	1,169,918
Total	41,139,467	7,939,917	71,361,753	13,772,818
Grand total	120,461,753	23,249,118	241,461,753	46,602,118

Lines.	Additional outlay.	
First category:	*Francs.*	
Novara-Pino	24,500,000	$4,728,500
Cedola-Nocera	300,000	57,900
Succursale dei Giovi	43,000,000	8,299,000
Total	67,800,000	13,085,400
Second category:		
Aosta-Ivrea	8,149,650	1,572,882
Sondrio-Celico-Chiavenna	1,852,428	357,519
Bellinno-Feltre-Tresiso	6,389,790	1,233,229
Ascoli-San Benedetto	2,629,930	507,576
Adria-Chioggia	3,955,916	763,492
Total	22,977,714	4,434,698
Third category:		
Novara-Varallo	3,297,000	636,321
Bra-Carmagnola	296,688	56,261
Vercelli-Mortara-Pavia	1,524,640	294,256
Airasca-Cavallermaggiore	1,931,264	372,734
Mantua-Legnano	1,827,207	352,651
Viterbo-Attigliano	2,548,656	491,891
Frascati	154,534	29,825

Estimated cost and additional outlay necessary for completion—Continued.

Lines.	Additional outlay.	
Third category—Continued.	*Francs.*	
Foggia-Manfredonia	989,856	$191,042
Zollino-Gallipolli	710,560	137,138
Legnano-Monselice	3,207,248	618,999
Gallarate to Pino-Novara	7,672,880	1,481,866
All other lines	6,061,753	1,169,918
Total	30,222,280	5,832,902
Grand total	121,000,000	23,353,000

Minister Sonnino, in his financial statement made to the Chambers on February 21, 1894, calculates the sum necessary to meet the additional outlay to complete the roads contemplated by the laws of July 27, 1887, and July 20, 1888, at 97,000,000 francs ($18,721,000). Owing to the crippled condition of Italian finances, the appropriations for railway building have been considerably reduced. The Minister makes the following estimates of the operating expenses of railways and for the item of additional outlay in railway building for the next few years: 1893–'94, 75,000,000 francs ($14,475,000); 1894–'95, 75,000,000 ($14,475,000); 1895–'96, 50,000,000 francs ($9,650,000); 1896–'97, 47,000,000 francs ($9,071,000).

RAILROAD STATISTICS.

Development of the roads.—In 1860 (the dawn at the creation of the Kingdom of Italy), there were 2,189 kilometers (1,368 miles) of railway in existence. At the close of 1871, the mileage was 6,377 kilometers (3,985 miles).

The following table shows the subsequent annual addition to the railroad mileage:

Year.	Mileage.		Year.	Mileage.	
	Kilometers.	*Miles.*		*Kilometers.*	*Miles.*
1872	377	234.26	1883	418	259.75
1873	128	79.54	1884	465	288.95
1874	491	305.11	1885	459	285.12
1875	302	187.66	1886	861	535.02
1876	260	161.56	1887	444	275.91
1877	243	151	1888	757	470.09
1878	30	18.64	1889	458	284.61
1879	120	74.57	1890	103	64
1880	385	239.24	1891	304	188.91
1881	180	111.85	1892	534	331.83
1882	291	180.85	1893	516	320.64

On December 31, 1893, the total number of kilometers of Italian railways was 14,503 (9,012 miles), including the tracks used by two or more lines.

The latest complete report on Italian railways by the railway inspectorate-general refers to the year 1890. At that date the total mileage, not including the tracks used in common, was 12,855 kilometers (7,988 miles).

Of the 12,855 kilometers, 12,052 kilometers (7,489 miles) were broad gauge (1,445 meters=4¾ feet), and 803 kilometers (499 miles) were narrow gauge.

There were 11,343 kilometers (7,057.92 miles) of single track, 1,512 kilometers (939 miles) of double track, and 2,534 kilometers (1,555.9 miles) of side track.

Of the 14,503 kilometers (9,012 miles) of track, 2,438 kilometers (1,515 miles) were laid with iron rails and 12,065 kilometers (7,497 miles) with steel rails.

Of the 12,855 kilometers (7,988 miles) of track, 3,031 kilometers (1,883.4 miles are level, 5,010 kilometers (3,113.3 miles) have an incline of 5 feet per 1,000 feet, 3,653 kilometers (2,269.9 miles) have an incline of 5 to 15 feet per 1,000 feet, and 1,161 kilometers (721.4 miles) have an incline of over 15 feet per 1,000 feet; 928 kilometers (6,767.2 miles) are straight, 1,794 kilometers (1,114.8 miles) show a curve of more than 500 meters, and 1,780 kilometers (1,076 miles) show a curve of less than 500 meters.

Ownership.—The ownership of the railways in 1890 was as follows: (1) Roads owned by the State, 8,448 kilometers (5,141.58 miles); (2) roads ceded to private companies but of which the State is coproprietor, 155 kilometers (96.32 miles); (3) roads ceded to private companies, 4,499 kilometers (2,795.67 miles); total, 13,102 kilometers (8,141.58 miles).

Of the 13,102 kilometers (8,141.58 miles) of railways operated in 1890, 4,742 kilometers (2,483 miles) were operated by the Mediterranean Railroad Company, 5,210 kilometers (3,237 miles) by the Adriatic Railroad Company, 713 kilometers (443 miles) by the Sicilian Railroad Company, and 2,438 kilometers (1,514 miles) by divers companies.

Cost of roads.—On December 31, 1890, the inspectorate-general estimated the cost of the roads and rolling stock at 4,139,000,000 francs ($798,827,000), subdivided as follows:

Lines.	Cost.	
	Francs.	
State lines	2,906,210,362	$560,898,600
Lines in which the State is copartner	38,413,590	7,413,823
Lines ceded to private companies	775,087,413	149,591,871
Lines ceded to the two great companies in 18[illegible]8	120,382,378	23,233,799
Total cost of lines	3,840,093,743	741,138,093
Cost of rolling stock	298,465,594	57,603,859
Grand total	4,138,559,337	798,741,952

Rolling stock.—The rolling stock on December 31, 1890, was as follows: Locomotives, 2,763; passenger coaches, 8,187; freight and cattle cars, 48,050.

The number of trains run during 1890 was 954,581, covering a mileage of 60,653,401 kilometers (37,688,568 miles).

The amount of coal used was 1,830,330,607 pounds (915,165 tons), and oil consumed, 573,759 gallons. The coal used per kilometer was 9,722 kilograms, and of oil, 0.028 kilograms, being 34 pounds of coal and 0.032 gill of oil per mile of road.

From 25,530,309 passengers transported in 1872, the number rose to 50,855,569 in 1890.

The freight handled (including baggage and freight for the Government) rose from 5,985,736 articles in 1872 to 17,457,600 articles in 1890. This did not include cattle, which, from 1,431,933 head in 1872, increased to 2,717,080 head in 1890.

Receipts and expenses.—The total gross railway earnings rose from 125,559,807 francs ($24,233,043) in 1872 to 255,687,108 francs ($49,347,612) in 1890.

The kilometrical gross earnings were:

Year.	Gross earnings.	
	Kilometer.	Mile.
	Francs.	
1872	19,140	$5,998
1883	22,073	6,906
1888	20,664	6,465
1889	19,908	6,336
1890	19,635	6,153

The receipts for the year 1890 are thus subdivided:

From—	Amount.	
	Francs.	
Passengers	98,517,946	$19,013,964
Baggage and fast and accelerated slow freight	25,167,100	4,857,250
Slow freight	107,982,019	20,840,530
Cattle	5,376,528	1,037,670
Other freight	18,643,515	3,598,198
Total	255,687,108	49,347,612

The general expenses increased from 145,271,093 francs ($27,037,321) in 1886 to 173,379,424 francs ($33,462,325) in 1890; the kilometrical expenses from 13,266 francs ($2,560.34=$4,170 per mile) to 13,669 francs ($2,638.12=$4,376.39 per mile) in 1888. There was a marked decrease in 1889, when the expenses fell to 13,160 francs ($2,539.88) per kilometer ($4,117.15 per mile). In 1890, the expenses reached 13,314 francs ($2,569.60) per kilometer ($4,165.72 per mile).

The net earnings, which were 76,852,176 francs ($14,832,470) in 1886, gradually rose to 86,353,950 francs ($16,666,312) in 1889, but fell to 82,307,684 francs ($15,885,383) in 1890. The net kilometrical earnings were 7,017 francs ($1,354.28) in 1886, 7,282 francs ($1,405,43) in 1887, 6,995 francs

($1,350.04) in 1888, 6,748 francs ($1,302.36) in 1887, and 6,321 francs ($1,219.95) in 1893, or $2,195.29, $2,278.20, $2,188.41, $2,111.13, and $1,977.54 per mile, respectively. The net earnings vary considerably from road to road. In 1891, the Mediterranean system gave 8,959 francs ($1,729.08) per kilometer, the Adriatic system 7,289 francs ($1,406.78), the Sicilian roads about 2,400 francs ($463.20), while the Sardinian roads showed a loss of 1,675 francs ($323.27) per kilometer.

The gross earnings of the Sardinian railroads in 1893 were 1,666,141 francs ($321,565), and the expenses were 2,065,222 francs ($398,597). As the Government had guarantied a minimum of gross earnings, it was obliged to pay 6,765,217 francs ($1,352,687) to make up the deficiency.

Without taking into account the interest on the capital employed in building the roads, the income derived in 1890 from the railways by the State amounted to 7,106,157 francs ($1,371,488), and this without considering the taxes paid to it and the direct and indirect profit derived from transportation on account of divers Government departments, such as custom-house, post-office, telegraph, and war departments.

The companies made a profit of 66,650,114 francs ($12,863,472).

The net earnings of the roads, therefore, amounted to 73,756,271 francs ($14,234,960), equal to about 2 per cent on the capital invested in the roads.

After ascertaining all direct or indirect profits from the roads to the State and its share of the expenses (including the interest on its indebtedness contracted to build the roads), it is found that the railroads of Italy cost the State 40,000,000 francs ($7,720,000) annually.

If, from the companies' profits of 66,650,114 francs ($12,863,472), we deduct 41,840,670 francs ($8,075,249) to pay the annual interest on their indebtedness and for the extinction of their duebills, there will remain 24,809,444 francs ($4,788,223), which represents about 4 per cent on the shares issued by them in 1890 to the amount of 643,439,500 francs ($124,183,824).

Railway accidents.—In 1890, there were 3,829 railway accidents (132 "run offs," 82 collisions, and 3,615 other accidents), which caused the death of 142 persons and the wounding of 651 others. The killed and wounded are divided as follows:

Description.	Killed.	Wounded.	Total.
Passengers	7	141	148
Employés	65	402	467
Outsiders	70	108	178
Total	142	651	793

Personnel.—On December 31, 1890, there were 101,300 individuals connected with the railways, viz, 87,204 employés and 14,096 day laborers. During the year 1890, the personnel received 115,696,169 francs ($22,329,560). On December 31, 1890, there were 37,643 names on the books of the railway pension fund, which amounted to 82,359,903 francs ($15,895,461).

There were at the same date 65,398 names on the books of the "assistance fund," which amounted to 10,882,809 francs ($2,100,382). In 1890, pensions and "assistance" to the amount of 2,058,594 francs ($397,309) were paid.

WALLACE S. JONES,
Consul-General.

ROME, *September 15, 1894.*

RUSSIA.

In view of the approaching introduction of a new system of passenger rates on the Russian railways—the so-called "zone system"—which will render traveling in Russia comparatively very cheap, a survey of the railway lines of the Russian Empire, as they appear at the present time, may be of some general interest.

Railways in Russia have been built partly by the Government and partly by private enterprise. In the latter case, a guaranty was frequently obtained from the Imperial Government, insuring to the stockholders a certain percentage of income from their stock, the Government thus becoming financially interested in all such railway lines. In recent years, a tendency has strongly developed in Russia, as well as in other countries of continental Europe, which aims at changing the private ownership of railways into State ownership. One by one, private railway lines have thus been passing under the full control of the Russian Government, being absorbed in the "State system" of railways. In the course of the present year, no less than ten different railway lines have been, or will be, transferred from private to Government ownership, and on the 1st of January next, the greatest of the remaining private lines of railway, namely, the Southwestern, more than 2,000 miles in length, is expected to follow suit.

The subjoined table shows all the railway lines in the Russian Empire, owned and operated by the Imperial Government on January 1, 1894, their length, including branch lines, being given in miles:

Lines.	Length.	Lines.	Length.
	Miles.		*Miles.*
Baltic	658	Murom	71
Bascunchak	48	Polesskiya	943
Warsaw-Tiraspol	335	Samara-Zlatoust and Orenburg	941
Donetz and Yekaterinsk	784	Syzran-Viazma	870
Transcaucasian	653	Ural	678
Kursk-Charkov-Azov	509	Charkov-Nicolayev	687
Libau-Romny	804	Total	8,322
Moscow-Kursk	341		

The following lines have been or will be taken possession of by the Government in the course of the present year:

Lines.	Length.	Lines.	Length.
	Miles.		*Miles.*
Mitau	85	Dwinsk-Vitebsk	163
Moscow-Nizhni	284	Lozovo-Sevastopol	503
Nicholas	427	Novotorzhsk	85
Rshev-Viazma	78	Orel-Vitebsk	325
Riga-Dwinsk	154	Total	2,909
St. Petersburg-Warsaw	805		

The following lines are still in the ownership of corporations:

Lines.	Length.	Lines.	Length.
	Miles.		*Miles.*
Borovichi	19	Vistula	338
Warsaw-Vienna	508	Rybinsk-Bologoy	187
Vladikaukaz	812	Riazan-Ural	500
Ivangorod-Dombrovo	301	St. Petersburg-Sisterbek	5
Irinovskaya	23	Tsarskoe-Selo	16
Kiev-Varonezh	573	Fastov	223
Lodz	18	Shuya-Ivanovo	127
Moscow-Brest	688	Southeastern	1,216
Moscow-Kazan	692	Southwestern	2,096
Moscow-Yaroslav-Vologda	384	Total	8,651
Novgorod	105		
Oboyanskaya	20		

Besides the above lines, there are, in Asiatic Russia, the Transcaspian military road, 895 miles long, the western section of the Siberian railway, from Cheliabinsk to Omsk 500 miles long, completed in the month of September, and about 100 miles of finished railway in the Ussuri region.

The railways of Finland, with a length of 1,314 miles on the 1st of January last, are owned and operated by the Government.

The railway system of the whole Empire, on the 1st of January, 1894, consequently showed the following mileage:

	Miles.
Government roads	8,322
Corporation	11,560
Transcaspian	895
Finnish	1,314
Total	22,091

On the 1st of January, 1893, there were in all 20,982 miles of railways; the increase of mileage during the year 1893 was therefore 1,109. Small as this increase appears to be, it was still considerably larger than that of the preceding three years, which showed the following figures: 1890, 456 miles; 1891, 82 miles; 1892, 347 miles.

Inclusive of the Siberian railway, the increase during the year 1894 will be about the same as last year, and the total railway mileage of the Empire on the 1st of January next will be about 23,300.

During the quarter ending June 30, 1894, all the Government lines, with three exceptions, exhibit an increase in their gross receipts as compared with the same quarter of last year, and the private lines, with seven exceptions, also report an augmentation. The increase is very remarkable, exceeding in several cases 50 per cent. The most important lines showing a decrease of gross receipts are the Transcaucasian, with a decrease of 12.4 per cent; the Vladikovkaz, 8.9 per cent; and the Warsaw-Vienna, 2.1 per cent.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *October 10, 1894.*

UNITED KINGDOM.

I have the honor to transmit the following very interesting figures regarding the length, capital, earnings, etc., of the railways of great Britain, extracted from a return of the Imperial Board of Trade, issued Saturday, August 11, 1894.

Mileage.—There are 20,646 miles of railway open for traffic, of which 9,374 miles are single track.

Capital.—The total capital authorized is £1,090,898,780 ($5,308,858,912.87), of which £784,704,633 ($3,818,765,096.49) is held by shares and stock, and £306,194,147 ($1,489,940,719.30) by loans and debenture stock. The paid-up capital amounts to £971,323,353 ($4,726,459,435.69), divided as follows:

Description.	Value.	
Ordinary stock	£354,276,789	$1,723,910,855.27
Guarantied stock	101,948,317	496,080,510.52
Preference stock	248,741,197	1,210,374,664.60
Loans	13,680,671	66,570,145.08
Debenture stock	252,676,379	1,229,523,260.21
Total	971,323,353	4,726,459,435.68

The paid-up capital is equal to £47,047 ($228,930.70), per mile of line open.

Earnings.—The number of passengers conveyed last year, exclusive of season-ticket holders, was 873,177,052, and the income from passenger traffic was £35,849,449 ($174,443,418.83), or a proportion to total receipts of 44.46 per cent. The gross receipts from goods traffic amounted to £40,994,637 ($199,479,903.64), and the proportion to total receipts was 50.84 per cent. The total traffic was £76,844,086 ($373,923,322.47), or £3,722 ($18,111.25) per mile of line open, and $1.16 per train mile. Rents, tolls, navigation, and steamboats earned receipts amounting to £3,787,806 ($18,431,463.99), making a grand total of receipts from all sources of £80,631,892 ($392,354,786.47).

Expenditures.—The working expenses amounted to £45,695,119 ($222,352,449.05), being 57 per cent of gross earnings.

The net receipts were £34,936,773 ($170,202,337.41), amounting to 3.6 per cent of paid-up capital.

The working expenses for 1893 were: In England, 57 per cent; Ireland, 55 per cent; Scotland, 52 per cent.

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, *August 14, 1894.*

PHOSPHATE DEPOSITS OF ALGERIA.

Ever since the year 1886, the French explorers of Tunisia have mentioned the existence, in the western part of that country, of immense and important phosphate deposits. Some two years ago, similar discoveries were made in the department of Constantine (eastern Algeria), in the Djebel* Dyr, in the Djebel Kouif, and at Kissa, in the region of Tebessa, 250 kilometers (155.35 miles) south of Bône.

The Tebessa deposits are situated to the northwest of that city, extend over an area several hundred square miles, and are said to be almost inexhaustible. The fertilizer, mostly composed of bones and teeth of sharks, is found in a semipulverulent state, in strata from 0.5 meter (20 inches) to 3 meters (10 feet) thick, intercalated in white marl and siliceous limestone. Its grade averages from 60 to 70 per cent, and at places reaches as high as 85 per cent of tribasic phosphate of lime.

Owing to the character of the deposit, the mining of the phosphate is exceedingly easy and cheap. The freight by rail from the mine to Bône is from $2.31 to $2.50 per ton, and it is calculated that, including all expenses, the cost to the mines, free on board vessel at the port of lading, does not exceed $4.63 per ton of 2,240 pounds.

The cost of transportation from Bône to the principal countries of Europe, and more particularly Great Britain, France, and the Baltic and Mediterranean ports, is at present as follows per ton: To England, $1.94; France (northern ports), $2.19; Baltic ports, $2.67; France (Mediterranean ports), $1.46; Italy, $1.09; Austria, $1.46. The approximate cost of phosphate delivered free on board at the port of destination would thus be: In England, $6.57; France (north), $6.82; Baltic ports, $7.30; France (Mediterranean ports), $6.09; Italy, $5.72; Austria, $6.09.

The phosphate is, as a rule, sold on the basis of the unit of tribasic phosphate of lime per 1,000 kilograms (2,204 pounds) delivered free on board at the port of arrival, and the prices obtained at present in Great Britain and Italy average, according to grade of mineral, from 14 to 14½ cents per unit.

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* Djebel means mountain.

The phosphate lands of Tebessa, as they stand at present, are under the control of three firms, two of which are English. Those of Djebel Dyr belong to Messrs. Crookstone Bros., and are located 15 kilometers (9.32 miles) northwest of Tebessa, 1,500 meters (4,988 feet) above the level of the sea. A railway 12 kilometers (7.46 miles) long has been built to connect the mine at Morsott with the Bône-Guelma railway from Tebessa to Soukaras. This firm can turn out from 200 to 300 tons daily.

The beds of Djebel Kouif are in the hands of the Constantine Phosphate Company. The head office of this company is at Leith, Scotland. This layer is situated some 25 kilometers (15.53 miles) northwest of Tebessa, 1,000 meters (3,281 feet) above the sea level. The quantity of phosphate existing in these beds has been estimated at 40,000,000 tons. The works are not yet in full operation, and the connection of the mine with the main line at Tebessa will require the construction of a railroad about 20 miles in length.

The third field, that of Kissa, is in the vicinity of Djebel Dyr, and is the property of Colonel Corp. But little has been done up to the present, but the work is, nevertheless, progressing steadily.

The general output of these mines was about 5,000 tons in 1893. It will reach, at the very least, from 30,000 to 35,000 tons during the current year, the firm of Crookstone Bros. being the largest contributors.

Other fields have lately been discovered in the same district, and numerous claims have been filed with a view to obtaining from the French Government the concession of the lands.

Beds of phosphate have also been found in other parts of the colony—in the department of Oran, in the region of the Rio-Salado, close to the boundary of Morocco, and at Inkermann (Oued Riou), 254 kilometers (157.8 miles) east of Oran, on the railway from that place to Algiers. Here, the deposits are of a different character, and are generally found in a state of solid rock. The mineral is also of a lower grade. The output has amounted to but very little, if anything. In fact, the Tebessa mines are at present the only ones worth mentioning.

The discovery of phosphates in Algeria in almost incredible abundance and of the highest value is a wonderful event in the history of the colony, and it can not be doubted that, in the very near future, the north African phosphates will prove serious competitors in the European markets with our American fertilizer, and the more so when the newly discovered lands are in full working order, and when the means of communication, having been developed, the Tunisian phosphates will fall into line.

SAMPLES OF PHOSPHATES.

With this report I forward samples of the phosphates.* Parcel marked "A" contains samples from the phosphate lands of Djebel Dyr; parcel "B," samples of Inkermann phosphates. Neither of these has been purposely chosen, and they are, regardless of grade, only meant to show the difference existing in the character of the fertilizer in the eastern and western phosphate fields of the colony.

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*Samples transmitted to the Department of Agriculture.

CHAS. T. GRELLET,
Consul.

ALGIERS, *August 11, 1894.*

EXPLORATIONS NEAR BABYLON.

I have the honor to report that I have examined into the results of the scientific exploration of the ruins of Niffer, near ancient Babylon, which were begun and are being continued under the direction of American scientists. The expenses have been defrayed by the "Babylonian exploration fund," which was formed by gentlemen in Philadelphia in 1888. The work of excavating began in 1887, and, except at occasional intervals, has been actively continued. Dr. Peters and Prof. Hilpricht, of the University of Pennsylvania, supervised the work in the beginning, but it is now conducted under the direction of Dr. Peters, a citizen of the United States.

The extent of the work has been such that from 150 to 250 Arabs are continually employed. In the number of tablets, brick, inscribed vases, and in the value of cuneiform texts found, this American enterprise rivals, if it does not excel, the explorations of Layard at Nineveh, and Rassam's excavations at Abu Habba.

Dr. Hilpricht, the distinguished Assyrian scholar, is remaining here at the museum, at the request of the Turkish Government, to translate inscriptions and arrange the tablets, inscribed bowls, and vases used from one to 4,000 years before the birth of Christ.

Many tons of tablets, vases, inscribed brick, sarcophagi, and the like, have already arrived at the museum here, and are now being examined, translated, and arranged by Prof. Hilpricht and Hamdy Bey, the learned Mohammedan in charge of the museum. The Sultan, in recognition of the services of the American professor, has promised that the University of Pennsylvania shall receive one of all duplicate antiques.

This enterprise has revealed an antiquity for the human race nearly ten centuries older than science had knowledge of before. The religion, government, habits of life, and, to a great extent, the customs of men who lived 4,000 years before Christ, are revealed by the inscriptions which are now being translated and arranged by Prof. Hilpricht.

The worship of one god (Bêl), who was invested with sensual and revolting attributes, is more clearly known, and the extent and arrangement of his immense temple are now revealed.

Thus far, twenty thousand inscribed tablets of clay and stone have been discovered. On these are inscribed promises to pay debt, deeds, contracts, and a record of all important public and private events. I saw one on which was inscribed a promise to pay borrowed money with interest in shekels in the reign of Cambyses. About one hundred and fifty Hebrew, Mandic, Arabic, and Syrian inscribed bowls have been dug up. These are more than all the museums in the world possessed before. They have also found hundreds of Babylonian seal cylinders, and many gold and silver ornaments worn thousands of years ago by the inhabitants of the region between the Tigris and Euphrates. About one thousand vases of alabaster, marble, and other stone have been discovered, with votive offerings of lapis lazuli, magnesite, and agate. Many hundred vases, toys, weapons, instruments, and household objects in iron, bronze, and clay were discovered, which illustrate the conditions surrounding the human race 4,000 B. C.

The temple of Bêl, I am informed, is now being dug around and laid bare, and, when finished, it will be the first temple of Bêl ever systematically excavated. Its colossal walls, containing one hundred and thirty rooms, have been exposed, and its slaughterhouse, altars, tablet archives in stone, and treasure-house revealed. The excavation extended down 42 feet below the surface to the foundation of the immense temple. An inscription on stone states that this foundation was established "in the bosom of the lower regions, in the neighborhood of the subterranean waters." Nine sarcophagi have been exhumed and transported entire to the museum in Constantinople. Very many crumbled when first exposed to atmospheric influence.

It is estimated that it will require sixty volumes to contain all the valuable cuneiform texts and their translations, with philological, archæological, and historical essays, and a description of Niffer, the customs of its people, their religion, and their social and political life. I am informed that the first volume of this work, edited by Prof. Hilpricht, was recently issued, and that it has received general encomiums by eminent European scholars.

I am assured by American professors here in Robert College that the scientific world now owes its oldest Semitic texts to this expedition, which, found more than 60 feet below the surface of the earth, evidence that Niffer was 1,000 years older than scientists had believed formerly.

I am also informed that of the one hundred and twenty-five Babylonian kings whose names and eras are known, eighty were found described on tablets excavated by this American enterprise.

The list of Babylonian rulers from 2,300 B. C. to the fall of Babylon (538 B. C.) has been made known by this expedition, and now we are able, for the first time, to lay a solid foundation for determining the age of undated tablets from paleography. I feel that the enterprise and intelligence of our scholars and public-spirited citizens in so distant a field as Niffer, and the valuable discoveries made of the earliest history of the human race, deserves more than a passing notice.

The use of glass, made in Niffer to imitate lapis lazuli, existed 1,400 B. C.

A. W. TERRELL,
Minister.

CONSTANTINOPLE, *August 25, 1894.*

AGRICULTURE IN BABYLONIA.

In ancient times, when the whole of Babylonian Mesopotamia and the greater portion of the tract intervening between the Tigris and the mountains of Persia and Kurdistan were artificially irrigated, this region held the principal granaries of the world. Such was the fertility of the soil that, according to Herodotus, it yielded commonly two hundredfold, and sometimes three hundredfold. Now, agriculture, as well as all other industries, is in a deplorable state, and the yield of both wheat and barley is said to average but twentyfold—less than 5 bushels of the former and not much more of the latter being produced per acre.

For the correctness of this statement, however, I do not like to vouch, as on no subject is reliable information obtainable here. Indeed, a dozen grain merchants, both Europeans and natives, of whom I made inquiry, assured me that measure and weight were not consulted either in sowing or reaping; but an ex-robber chief who now tills the soil, told me that on a fidan of land he sows 8 wezneh of wheat or 10 of barley, from which he reaps 8 and 10 toghar respectively. Now, a fidan is said to be 734 meters square, or about 135½ acres, while a wezneh is 100 kilograms, and a toghar 20 wezneh. From these data I figure that an acre of land produces 4.3 bushels of wheat.

Only small patches of ground, close to the river banks, are now cultivated. Seedtime is in November and harvest time in May. The plowing consists merely in superficial scratching with a wooden stick. As the rainfall is insignificant, irrigation becomes necessary, and the water is raised from the river in skins by means of a rope running over a wooden roller between two uprights, oxen furnishing the motive power. These rollers are never lubricated, and can be heard a mile away.

The grain is cut with a sickle, the blade of which is about 8 inches long, and slightly curved. The grain is piled up around a stake, and trampled by horses tied to the stake with a long rope, so that they walk in an ever-narrowing circle (as the rope winds around the stake), dragging after them a box on rollers supplied with knives. This constitutes the thrashing, and at the same time cuts the straw, which is used for cattle feed and in brick-making. The grain is stored in artificial caves, the openings of which are covered with earth to conceal them from robbers and tax collectors.

To prepare bread, the grain is first pounded in a large wooden mortar, two women wielding the pestle. It is then tossed up in the air (winnowed) several times from a basket in order to separate the chaff from the grain, after which it is ground in a handmill. Some mills are moved by horse power. No yeast is used. The flour is mixed with unfiltered river water, which holds a large quantity of sand in suspension, not to mention other impurities. The dough is then formed into cakes, and these are baked on hot ashes in a circular mud oven open at the top. This bread is preferred to

European or American bread, not only by the Arabs but by Europeans who have resided here any length of time. To me it is extremely unpalatable.

Farmers are taxed 10 per cent of their crops, and 20 per cent if the crops are produced without irrigation. Vegetables are taxed similarly. Date trees are taxed 1 piaster (4.4 cents) per tree, and 2 piasters if irrigation is dispensed with. Other taxes must be paid every time the products are moved.

The quantity of grain exported varies greatly from year to year. In 1889, 200 cwts. (373 bushels) of wheat were shipped to England. This year the crops have been almost totally destroyed, and there will probably be nothing to export, though last year's crops, of which but little has been sold, will prevent a famine.

As population increases, Irak, or Babylonia, will again become one of the leading food producing lands. The ancient irrigation canals can easily be restored, and this will relieve the spring pressure of water in the rivers and prevent inundations. If trees were then planted along the banks of the canals, it would probably change the climate by increasing the rainfall and distributing it more evenly throughout the year, which would again lower the extreme summer heat and equalize the temperature. With intelligent encouragement given to agriculture, this whole region could be reconverted into a garden. By the aid of modern methods and machinery 32,000,000 acres of desert and swamp lands between Moṣul (ancient Nineveh) and the Persian Gulf could be transformed into grain fields and fruit gardens more productive than any others in the world.

JOHN C. SUNDBERG,
Consul.

BAGDAD, *July 7, 1894.*

REFERENDUM AND INITIATIVE LAWS IN SWITZERLAND.

Having been requested by a California editor to furnish for publication the referendum and initiative laws of Switzerland, and to give my opinion as to the working of the same, I transmit herewith, for the use of the Department, translations of these two laws.

While these laws seem to suit the Swiss people in general, some contend that in a country like Switzerland, where the elections of lawmakers are frequent, where the office seeks the man and not the man the office, where the only real inducement to office-seekers is the honor thereto attached, where a man once elected, if competent and honest, can, if he so desires, succeed himself and remain a member of the national legislature, or a federal councilor (the latter being the executive branch of the Swiss Government); where the constitution is liberal and can be amended at the will of a majority of its citizens, who, as in the United States, are all equal before the law and enjoy the privileges of the elective franchise, they are an unnecessary adjunct to formerly existing laws, and the cause, at times, of needless excitement and expenditure.

Recent events tend to sustain this last assertion. An initiative movement was set on foot lately, and 52,387 signatures were secured to the petition praying the federal council to frame a law by which the Government of Switzerland would be bound to furnish labor to the unemployed. The general prediction was made that such initiative would be defeated. Still, the requisite number of signatures having been submitted, the federal council, as was its duty, ordered a general election. The proposition was overwhelmingly defeated by a majority of over 308,000, only 75,880 votes being cast in favor of the project, or 23,000 votes over the number of original signers of the demand. The expense of this election was large, namely about $12,000, and this amount might have been saved to the federal treasury.

I.—REFERENDUM LAW.

The Federal Assembly of the Swiss Confederation, in accordance with articles 89 and 90 of the federal constitution of May 29, 1874, and the recommendation of the federal council in its message of May 29, 1874, enacts:

ARTICLE 1. Federal laws, as well as federal enactments which are binding, if not of an urgent nature, shall be submitted to the vote of the people on the demand of at least 30,000 Swiss citizens, or of the governments of at least eight cantons.

ART. 2. The Federal Assembly will decide whether a federal act is binding or urgent, and the decision has in every case to be expressly incorporated in said act. In such case, the federal council will provide for the execution of the law, and have it entered on the statute book.

ART. 3. All federal laws, as well as acts, which do not conflict with article 2, are to be published immediately after their enactment, and a sufficient number of copies must be sent to all the cantonal governments.

ART. 4. If the referendum is demanded by the people, or by the cantons, the same must be filed within ninety days, counting from the day of the publication of the law or the enactment, in the official organ of the confederation.

ART. 5. The demand for an election is to be in writing and addressed to the federal council; citizens who wish to sign the demand must do so in person; any one signing another's name shall be subjected to punishment for forgery; the authorities of the respective communities must certify as to the voting right of electors whose signatures are appended to the referendum demand; no fee shall be collected for such certificates.

ART. 6. If a number of cantons make the demand (referendum), it has to be made through the canton councils, provided that the cantonal constitution does not prescribe other rules.

ART. 7. If, after the expiration of the ninety days dating from the first publication of a federal law or enactment in the official federal organ, no demand for an election has been made by the people, or if such demand has been made within the period named, but the official count shows that the requisite 30,000 signatures, or eight cantonal governments have not been obtained, the federal council will declare the respective law or enactment in force, and will order the same incorporated in the statutes.

The signatures asking for a referendum will be published in the federal organs showing the number of signatures from each canton or community; further, the demands made by the cantonal governments in accordance with article 6 will be published. Moreover, the federal council will report the result to the Federal Assembly at its next meeting and submit the records relating thereto.

ART. 8. If, on the other hand, it is found, upon examination of the application, that the request has been signed by the requisite number of cantons, then the federal council will order the question submitted to the vote of the people. It will also inform the cantonal governments thereof, and order the law and enactment referring thereto to be published without delay.

ART. 9. All the citizens of Switzerland will cast their vote on the same day, which will be named by the federal council.

ART. 10. Every male Swiss citizen, who has attained his twentieth year, is entitled to vote, provided he is not debarred therefrom by the law of the canton of which he is a resident.

ART. 11. Each canton has to provide for the election within its territory, in accordance with the federal prescriptions relative thereto.

ART. 12. A record of the vote shall be kept in each community or each district. Such record must contain the exact number of persons entitled to vote, and the number of yeas and nays that have been cast for or against the law in question.

ART. 13. The cantonal governments must send these tally lists, within ten days, to the federal council, holding the ballots at the disposal of said council. By these records the federal council will determine the result of the election.

ART. 14. The federal law or the federal enactment is to be regarded as in force, if a majority of the votes cast have been found in favor of the same. In such cases, the federal council will order the same enacted and incorporated in the federal statutes.

ART. 15. If, on the contrary, a majority is found to be against the law, the same will be declared rejected, and, therefore, void.

ART. 16. In both cases the federal council will publish the result of the election, and inform the Federal Assembly thereof at its next meeting.

ART. 17. The federal council is charged with the execution of the present law.

Special Regulations.

ARTICLE 1. The above law is to be published in the official federal organ, and a sufficient number of copies printed to be distributed among the several cantonal governments.

ART. 2. All paragraphs apply to the law itself.

ART. 3. These regulations are in force beginning from this date.

ART. 4. The federal council is charged with the execution of the same.

II.—INITIATIVE LAW.

Swiss federal law relative to the initiative and elections for revision of the federal constitution, enacted January 27, 1892.

In conformity to article 122 of the federal constitution, and the recommendation of the federal council in its message of July 22, 1891, the Swiss Federal Assembly enacts:

ARTICLE 1. A revision of the federal constitution, as a whole or in part, can at any time be demanded by way of the initiative. (*See* articles 118, 120, and 121 of the constitution.)

ART. 2. If any one desires to use this franchise, an application signed by at least 50,000 voters, who must be Swiss citizens, is to be addressed in writing to the federal council, who will submit the same to the Federal Assembly. This application must contain the subject of the initiative.

ART. 3. Any citizen wishing to make such application must sign it personally. Anyone signing another's name will be indicted for forgery and punished accordingly.

ART. 4. Each list containing the signatures must name the canton and the community of which the applicants are residents. To be valid it must also specify: (1) The text of the initiative; (2) the text of article 3 of this law; (3) a certificate of the city authorities properly dated, showing the applicants to be entitled to vote on federal laws, and that they are qualified electors in their communities. No fee shall be collected for this certificate.

ART. 5. Having received the revision demand, the federal council will canvass the signatures and determine the numbers entitled to vote. Debarred from voting will be: (1) Those whose signatures have not been certified to, within the period of six months, dating retrogressively from the day on which the revision demand is received by the federal council; (2) the signatures contained in an unvalid list (see article 4); (3) those signatures, the registration of which is missing, incomplete, or incorrect. Any signatures showing to be in the same handwriting are classed as invalid, and will not be counted. The federal council will issue reports in its official organ showing the result of the investigation, and will submit the same to the Federal Assembly at its first meeting, together with all other acts relating thereto.

ART. 6. If a demand for revision, or an initiative requiring a total revision of the constitution is found valid, the question whether this revision shall take effect must be determined by the vote of the whole Swiss people. If the majority is in favor of revision, both the state council and the national council must be reëlected, and the new incoming councils must proceed to revise the constitution in toto.

ART. 7. If the initiative demands the repeal, abolition, or change of certain articles of the constitution, and if the same is framed in the form of a general bill, both councils will have to decide within one year whether they agree with the demand or not. If they agree, they will provide for the necessary legislation in accordance with article 121 of the constitution. If they reject the demand, or cannot come to a decision within the stated period, the federal council will then call a general election. If the majority of Swiss citizens vote in favor of the demand, the Federal Assembly shall, without delay, take the matter in hand and make the required revision, after which the revised articles will be again submitted to the vote of the whole Swiss voters.

ART. 8. If, on the other hand, the demand is in the form of an elaborate project, the two councils shall decide, within a period not exceeding one year, whether they agree with this project or not.

ART. 9. If the two councils can not come to a unanimous conclusion regarding said project, it will be subjected to the vote of the people, and the vote of the cantons, as also is the case if the Federal Assembly concludes to agree to the project.

ART. 10. If the Federal Assembly decides not to agree to the demand, the people will vote on the question. The Federal Assembly has a right, however, to recommend to the people the rejection of the project, or propose a new one prepared by the Assembly.

ART. 11. In case the Federal Assembly proposes a special elaborate project, in opposition to the demand for revision, the people will have to vote on the two questions, as follows: (1) Do you accept the project for revision demanded by the initiative? or (2) do you accept the project of the Federal Assembly?

ART. 12. The blank and invalid ballots are not counted in determining the result of the vote. Ballots which answer one question with "yes," and the other with "no," or both questions with "no," are valid. Ballots which answer both questions with "yes" are void.

ART. 13. The project which is accepted by the majority of the voters and the majority of the cantons, will become a law.

ART. 14. The records of the vote must contain the number of residents in the community entitled to vote, the number of ballots, the number of invalid votes, and, finally, the number of yeas and nays for each of the questions.

ART. 15. If, on the same article of the constitution, several demands for revision have been made, they must be voted on separately in accordance with the date of their filing.

ART. 16. As for the rest, the prescriptions of the federal law of June 17, 1874, relative to federal election laws and regulations, must be followed.

ART. 17. The federal law of December 5, 1867, relative to the constitutional revison demand is hereby repealed, as well as the federal council's prescriptions dated May 2, 1879.

ART. 18. The federal council shall publish this law and the date of its enactment in accordance with the prescriptions of the federal law of June 17, 1874, relative to federal election laws and decisions of the federal council.

The federal council declares that the above federal law, published on the 10th of February, 1892, is a part of the Swiss federal laws, and will be in force beginning with May 15, 1892.

EUGENE GERMAIN,
Consul.

ZURICH, *August 2, 1894.*

FOREIGN EXPORTS UNDER THE NEW TARIFF

BRADFORD.

There is probably no single town or district in any foreign country that is so dependent upon the United States trade as Bradford. It is true, the manufacturers and merchants do a large home trade, and their goods are sent to all climes and countries, but they seem to regard the American trade as peculiarly their own. Perhaps local tradition and history have largely to do with this, and the idea has descended from one generation and from one firm to another. For nearly a century, textile products from this neighborhood have gone to the United States. During the civil war, the Bradford trade was at its zenith; the volume of business was large and the profits prodigious. This epoch, coupled with the later Franco-German war, gave the district its greatest periods of prosperity. Fortunes were accumulated, improvements were made, and the residence part of the borough grew apace. Handsome houses, surrounded by splendid gardens and grounds, sprang up in great numbers as a result of this prosperity.

Under these conditions, Bradford is extremely sensitive on the question of the tariff. Its pulse quickens or sinks with every change of tariff temperature. Since the war, it has continued to do a large American business. The McKinley bill came as a staggering blow. It was thought it sounded the death knell of business with the United States, but, though seriously disturbed at first, the trade managed to revive. Business was done on a different standard. New grades of goods, new goods, and new materials were introduced. Expenses were reduced, economy practiced, and Bradford was opening up a trade with the United States under the McKinley law on new lines. There was especially a wonderful increase in the exports of cotton goods used for linings.

Business had effectually revived and showed a constant tendency toward improvement when the new tariff agitation came. The depression that began in the United States in the early summer of 1893 was almost immediately reflected here. June of that year was the last good month. Since then, Bradford and the surrounding district have been inactive, inert, clogged, and sluggish. The long fight over the Sherman silver law was watched with intense interest. Many old exporters said openly they would prefer the McKinley law and less business to the long suspense and inactivity they felt sure would result over a prolonged fight on the tariff. The prompt passage of the Wilson bill by the House of Representatives revived courage and spirits. American merchants sent in large orders contingent upon the passage of the bill by the Senate. Machinery was held in readiness; everybody was prepared for the good time coming. The cable was freely used. But two seasons' trade has passed away and the "worsted capital" has lain dormant. True, trade, in a measure, was kept up with the balance of the world, but there seemed stagnation and stringency everywhere. Here, the snap and vigor and go-aheadativeness of the market were gone; everything languished. A dozen false rumors of tariff settlement taught the importers on one side and the exporters on the other not to do anything or to make any move until there was an absolute settlement, about which there could be no question. Thus, one New Yorker wrote wearily to his Bradford correspondent: "I have orders for a thousand pieces for you, but do not think anything about them until this tariff business is over."

If the citizens of the United States suffered from the long-continued suspense, their anxiety has not been keener than that of their cousins here. Capital became timid. Firms that were never questioned before were put through a rigid examination, and their securities were closely scanned before money would be advanced by the banks. Several American houses failed, leaving a number of Bradford creditors. One New York house alone owed $500,000 here. Others secured extensions. Following this, several Bradford houses, both in the manufacturing and mercantile line, went into bankruptcy, one for over $2,000,000. As usual in such cases, there were rumors of other firms in difficulties, and innuendoes and insinuations were heard concerning the oldest, most substantial, and best houses. The tariff infection spread to all classes of the community. Lawyers talked of money being scarce, but thought times would be better when the tariff was settled. Firms lacking capital and attempting to negotiate loans were told that money would be easier when the tariff question was disposed of. Men hovering on the verge of bankruptcy regarded the tariff as a frightful specter. Laboring men and small shopkeepers discussed the matter and attributed loss of work, loss of trade, and nearly all existing evils to "the American tariff." This fairly describes the state of the public mind and the depressed condition of the market when the news suddenly came one morning that the tariff was settled.

I do not mean to say that Bradford could not get along without the trade of the United States. I have no doubt that necessity would, in a few months, cause the traders here to extend old markets, to open new ones, and to explore new fields. They would, in time, no doubt, completely survive if the exportation of every article of commerce to the United States were suddenly prohibited. But I believe, and am supported by many careful thinkers here, that the existing condition of things when the tariff bill was finally passed could not have lasted much longer without bringing on the worst financial scare Bradford has known. The commercial fabric of the town was like tinder, and a spark would have set the whole structure into a flame of unseeing, unreasoning panic.

While the final passage of the tariff bill has not produced "a boom," it has certainly created a cheerful feeling. Long faces and dismal croakings have given way to smiles and hopeful expressions. Conservative traders have carried themselves very carefully, however, and have given sage warnings that nothing ought to be done or said that would tend to excite the market or create an artificial basis. One of the most noticeable features has been a strengthening in prices. At this writing, fourteen days after the passage of the bill, and on the very day it goes into effect, worsted coatings have increased from 4 to 8 per cent in price above the lowest quotations of the dull season. And the same can be said of dress goods and other fabrics, though buyers are not always found at the advanced prices. Wool has increased, on an average, half a cent per pound, though more is asked. This comes upon an already increased price of 1 or 2 cents in anticipation of free wool. Tops have increased one cent per pound. Botany yarns have increased one cent, and other woolen and worsted yarns a quarter of a cent and half a cent per pound. But on all of these prices there is a holding off and protest on the part of buyers of each class of goods. This seems to evidence a determination on the part of the general body of traders not to plunge headfirst into the heart of a "boom" and then suffer a reaction. The fact that the Bradford conditioning house has been doing nothing for the last ten days, as against a good business for the previous few weeks, is a further illustration of the fact that buyers are wary and not eagerly snapping up present bargains.

On the other hand, there are also evidences of coming prosperity. One of the largest manufactories here has orders that will keep it running full time until the first of April, 1895. Every one of their eight hundred looms for which they can find operatives has been put in motion, and there has been a voluntary increase of wages that would amount to 25 cents per week per hand all around. Other mills have put on the full complement of hands. The merchants in Bradford who have laid off their warehousemen for the last few months have reinstated them. The representative of one of the largest American firms in Bradford in the past fortnight has also made some of the largest purchases for future account that has ever been made here, though the firm has been buying in the Bradford market for nearly fifty years.

The first shipments of goods after the passage of the new tariff bill, and understood to come wholly under its provisions, were for the week beginning August 19 and ending August 25. For this week, invoices to the number of one hundred were declared, against eighty the previous week, and so few as fifty in some previous weeks. This was the largest number in any week for a year previously. The total value of these declared exports for the week was $180,000, compared with $110,000 the previous week. The value of free wool declared during this week was $51,000, compared with $3,000 the previous week. In a few months prior to this time, however, there had been shipped a considerable quantity of wool, as well as manufactured goods, to go into bond and await the operation of the new tariff.

The appended figures will also throw some light on the operations of various tariffs as affecting this district: Two periods of three years and nine months each are taken—the one immediately preceding the McKinley law and the other following. The aggregate value of the exports to the United States for the two periods are contrasted, from which it will be seen that there has been an actual shrinkage during the latter period to the extent of

$37,626,169.08, or 47¾ per cent. Bradford exports to the United States under the tariff of 1883 were: January, 1887, to September, 1890: 1887, $16,544,580.69; 1888, $20,361,361.25; 1889, $22,835,594.31; 1890 (nine months), $17,788,923.59; total, $77,530,459.84. Under McKinley tariff: October, 1890, to June 1894: 1890 (three months), $2,225,131.76; 1891, $11,644,912.07; 1892, $13,593,088.80; 1893, $9,909,105.10; 1894 (six months), $2,532,053.03; total, $39,904,290.76. Total exports (forty-five months) under tariff of 1883, $77,530,459.84; total exports under McKinley tariff, $39,904,290.76; decrease, $37,626,169.08, or 47¾ per cent.

The bankers are, perhaps, the most jubilant class over the removal of the incubus that rested over the town. There had evidently been concert of action among them to protect the credit of the district and lend assistance in deserving cases to prevent panic and general distrust. They now assert that they are glad to have some money coming in, instead of going out altogether. But it is not only the settlement of the tariff in the United States that cheers the far-sighted Bradford exporters. For years they have struggled against adverse tariffs in all countries. They have always had to contend against increases; they regard this as the first break—as the entering wedge. Any change in the tariff of the United States hereafter, they anticipate, will be a change downwards. But, above all, they expect other countries to follow in the wake of the great Republic, and confidently look forward to a reduction in the tariff taxes of France, Germany, Spain, Russia, and other countries. Then, they assume, with commerce broadened and barriers removed, the countries will exchange products with mutual good feeling, and all will enter upon an era of prosperity.

CLAUDE MEEKER,
Consul.

BRADFORD, *August 28, 1894.*

GLASGOW.

In a report to the Department under date of October 10, Consul Morse, of Glasgow, says:

Large orders are being received by merchants here since the passage of the new United States tariff bill, and many of them have expressed to me the opinion that the coming year will witness an unprecedented trade between Glasgow and the United States, both as to exports and imports. Every indication points that way.

The enactment and operation of the law have given a new impetus to trade between Glasgow and the United States, the months of August and September showing a very perceptible increase in the number of invoices and the value of exportations, as compared with the preceding months.

In April, 1894, the number of invoices was 269; May, 233; June, 194; July, 231; August, 332; September, 294. The value of exportations for the quarter ending June 30, 1894, was $703,674.37; for the quarter ending September 30, 1894, it was $954,953.58, an increase of $251,279.22. As compared with the same quarter of last year, there has been an increase. For the quarter ending September 30, 1893, the value was $894,643.72, the increase of this quarter for 1894 being $60,309.86. This increase was all in the months of August and September.

SHEFFIELD.

In his annual report* to the Department of State, Consul Bedle, of Sheffield, England, under date of October 11, says that there has been a falling off of over $690,000 in the declared value of exports to the United States from the district of Sheffield during the year ending September 30, 1894, as compared with the same period of 1893. The decrease is chiefly in steel, $368,000; cutlery, $185,000, and steel shells, $38,000.

> The volume of trade has been smaller than for many years past, if not the smallest in the history of the consulate, and is due to the general depression that has existed, and principally to the hesitancy to contract in the face of prospective tariff changes.

With reference to the new tariff law of the United States, he says:

> Notwithstanding the fact that the new act only came into effect on August 28, improvement in the cutlery trade immediately set in, and the exports of this line of goods during the quarter just ended were the largest since September 30, 1890. There is already increased business confidence, and there is good reason to expect improved trade with the United States.

NORTHERN MEXICO.

The effect of the new United States tariff is being felt in increased trade with northern Mexico. Large exportations of dressed hides, mules, horses, etc., have been added to the usual exports heretofore made, and the prospect for a large spring business is most cheering. Under the operations of the McKinley law, all live stock ceased to be exported to the United States from Mexico, the tariff on horses and mules being $30 each, or from twice to three times the selling value of the animals here in Mexico. The United States tariff amounted to a total prohibition, and, until thirty days ago, not a live animal of any description had been exported. Large exportations of dressed hides (leather) show another new feature that shares the benefits of the Wilson schedule. Both countries must share in the results that arise from advantageous commercial intercourse from the sale and interchange of their commodities.

The State of Tamaulipas stretches down the Gulf coast from the mouth of the Rio Grande to Tampico, and westward along the great river to Laredo, embracing in its rich territory thousands of miles of the finest grazing lands in the world. Over its extended domain cattle, sheep, goats, horses, and mules can roam the year round grazing on its succulent grasses. There is no frost south of Matamoros, which gives a climate of almost endless spring. A mule or horse is grown as cheaply as a steer, with little or no care, except herding and branding. No feeding of any kind is required.

The same observation may be made with regard to the Texas or American side of the Rio Grande. Here, some of the largest ranches in the world are found, with climatic and other advantages for grazing similar to those in Mexico.

J. B. GORMAN,
Consul.

MATAMOROS, *October 11, 1894.*

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* The full text of the report will be published in Commercial Relations for 1894.

MARSEILLES.

As the Department may be interested in having early information from the consulates as to the effect of the new United States tariff on exports from foreign countries, I have the honor to submit the following brief statement of the business of Marseilles for the first full month (September), since the measure became operative. The declared value of exports to the United States from this port (not including the agencies) for the month, aggregates $343,856, as against $71,269 for the same month of 1893. In order to indicate clearly the exact effect of the new law, the declared value of exports through this consulate for each of the past twelve months is appended:

Months.	Amount.	Months.	Amount.
1893.		1894—Continued.	
September	$71,269	March	$138,399
October	162,137	April	157,544
November	121,042	May	136,100
December	117,836	June	137,293
1894.		July	171,115
January	104,344	August	221,708
February	118,160		

The business of the month just closed is the largest as to exports in the history of this consulate, being $15,328 in excess of September, 1892, the next month as to aggregate value of exports, and $205,777 in excess of the average of the preceding twelve months. It should be stated that this increase is not confined to articles placed upon the free list; the proportion is approximately the same as to all merchandise leaving this district.

CLAUDE M. THOMAS,
Consul.

MARSEILLES, *October 1, 1894.*

COLOMBIA.

The news of the abrogation of the McKinley tariff, with its reciprocity clause, is having a most salutary influence upon the revival of certain important trade interests between the United States and Colombia. Under reciprocity, a tariff was placed on all coffee and hides entering the ports of the United States from Colombia, Venezuela, and Haiti. This tariff was obviously not a "protective" measure, since all other South American countries producing coffee and hides were permitted to export those articles of commerce to the United States free of duty. The discrimination against Colombia was simply due to the fact that a high duty is placed here on all imports of American flour. Working on the theory of reciprocity, therefore, it was proposed to this Government by the United States that the tax on flour be removed, but Colombia refused to accede to our demands in this respect. Negotiations were broken off, and the tax on Colombian coffee and hides was ordered by our Government in accordance with the reciprocity law then in vogue.

In connection with the foregoing I beg to submit briefly:

(1) To Americans who have lived in this country and studied the methods employed to raise Government revenues here, the proposition to remove the tax from American flour has always appeared unreasonable and ill-timed. In Colombia, the tariff still retains its primitive significance. Foreign goods are taxed solely for the sake of acquiring the revenue requisite for Government needs. The imposition of a high tariff on flour by the Colombian Government is claimed to be a necessity for the maintenance of the latter, and not a means of encouraging a native industry that does not and probably never will exist. As a matter of fact, the tax on flour is one of the chief sources of revenue of Colombia. The tariff in Colombia is not simply a tariff for revenue only; it is also the country's only revenue, and on account of the peculiar conditions of the country and its people, must remain so for an indefinite period.

(2) As a "retaliatory" measure, the tariff imposed by our Government on Colombian coffee and hides by the McKinley law has proved utterly ineffectual. Just as large a quantity of coffee and hides has been produced here while the above law has been in operation as before. It is needless to add that thus far there has always been a market for as great a quantity of these products as Colombia could raise. The only effect of this discriminating tax has been to lessen the volume of trade between Colombia and the United States, and to greatly enhance the commerce between Colombia and Europe. The exportation of coffee and hides from Colombia has in the aggregate been just as large, notwithstanding our tariff, but, of course, the coffee and hides have not come to us.

It may thus be seen that while the tax laid by our Government on the coffee and hides of Colombia was undoubtedly intended as a restriction on these products, the principal sufferers have been American merchants and shipowners who were compelled to see these two profitable articles of export handled by European agents, and transported in European vessels to European markets. Moreover, in still another way, "reciprocity," so far as Colombia is concerned, has injuriously affected our people. Coffee and hides are shipped from here to foreign ports, where they are admitted duty free, as in England or the German free ports, and thence reshipped to the United States with the cost of additional handling added to the retail price which our people have to pay, and are then entered without paying duty to the United States.

This change of the commercial relations between this country and the United States incident to the old tariff and its inevitable consequence is merely a matter of statistics, and is well known to all shipping merchants here. Now, however, that a tariff without the old reciprocity feature has become a law in the United States, encouraging reports reach this city daily [illegible]ating the speedy return of the coffee and hide trade between the two countries. Increased orders for shipments direct to the United States were received almost simultaneously with the news of the final adoption of the new tariff, and it is easy to predict from its already visible influence on the movement of trade here, that the abandonment of reciprocity will open up a new and natural field for American capital and industry in the Republic of Colombia, and presumably in Haiti and Venezuela also.

CLIFFORD SMYTH,
Consul.

CARTAGENA, *September 10, 1884.*

SALE OF WYOMING WOOL IN LONDON.

During last May, certain newspapers of the United States, as well as of England, contained the announcement that three carloads of wool had been shipped from Wyoming to England. There was no further statement as to quality, price, ultimate destination, or the purposes for which it was to be used. Thinking that information on this point, coupled with that concerning the sale of Ohio wool in Bradford last spring, which has heretofore been reported upon,* might be of practical use in the United States, I set about to obtain such facts as I could. Correspondence with various parties here who might know of such a shipment was not fruitful in results. At last I heard that the wool started from Casper, in the State of Wyoming. I wrote to the postmaster at that point asking for the particulars. The postmaster replied, giving the name of the shipper of the wool. Under date of July 30, I addressed inquiries to that gentleman. · Writing under date of August 15, he replied:

> In reply to yours of July 30, I can not give you the information you desire at the present time, but will be pleased to furnish you all particulars when I have closed the transaction. I have had some wool sold in London at 9 to 13 cents, but not enough to tell anything about how the business will turn out. Quite a number of the commission firms here in the United States are very bitter toward me on account of my shipping wool to England. My wool last year was very heavy and fine, and sold in London at 12 cents. I will be pleased to give you any information from time to time that I may have.

The facts in the foregoing are submitted for the use of those interested in this question.

CLAUDE MEEKER,
Consul.

BRADFORD, *September 3, 1894.*

CHANGES IN THE NORWEGIAN TARIFF.

In the Storthing, which adjourned a few weeks ago, some modifications of the Norwegian tariff were made, which went into effect on the 1st of July last. The alterations of the customs duties on malt and liquors, reported to the Department on February 8, 1894, and printed in CONSULAR REPORTS

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*See CONSULAR REPORTS No. 165 (June, 1894), p. 202.

No. 164, p. 80, which were made for the preceding fiscal year, will remain in force.

The following list shows the principal changes in duties, with the old and new rates of the same:

Articles.	Unit.	Old rate.	New rate.	
		Kroner.	*Kroner.*	
Bicycles, for children	Each	3.00	20.00	$5.36
Blacking (grease and blacking for leather-dressing, and other leather blacking, with the interior packing)	Kilogram*	.05	.10	.0268
Colors and paints:				
White lead and oxide of zinc, and all other white paints not otherwise provided for	do	.067	.07	.0187
(Tare: Casks, 10 per cent; metal boxes, etc., 8 per cent).				
Paints ground in oil	do	.067	.07	.0187
(Tare: Casks, 12 per cent; metal boxes, etc., 8 per cent).				
Earthenware and clays, manufactured:				
Pottery, common—				
Unglazed and unpainted		Free.	Free.	
Other	Kilogram	.033	.03	.008
Fruits, tree (plums and prunes)	do	.167	.17	.045
(Tare: Casks and cases, 10 per cent).				
Glue (capsules, gelatin, including contents, and not otherwise provided for)	do		.50	.134
Grass, manufactures of (mats for packing)	do	.10	Free.	
Gums and gum resins:				
India-rubber and gutta percha, manufactures of—				
In sheets, including rubber paper, soles, cords, or straps, thread, rings, ropes, blocks, buffers, tubes, rollers, telegraph hats, mats and soles for horses; also when composed of threads and warps		Free.	Free.	
Other	do	.93	†.60	.16
Hats and caps (hats for women, dressed with other stuffs than silk or flowers)	Each	.80	1.00	.268
Malt, extracts of (solid or fluid), with or without additions, including the weight of the inside packing	Kilogram	.36	.45	.12
Oils, etheric (turpentine oils, spike, juniper, and birch oil, oil of hartshorn and amber, benzine)	do	.06	.07	.0187
Rush, manufactures of (mats for bagging)	do	.10	Free.	
Soap, soft	do	.033	.04	.0107
Straw, manufactures of (mats for bagging and ropes)	do	.10	Free.	
Wood, manufactures of:				
Cups, boxes, frames for cruets (*plats de ménage*), work boxes and razor cases without instruments, carved wood and similar small articles, if the weight of each piece does not exceed 1.5 kilograms	do	.23	.40	.107
Real and imitation gilt poles and frames; also poles and frames polished or japanned	do	.10	.23	.06
Turners' work, mounted or unmounted, ring, and similar articles, combs (also of cocoanuts and other nuts)—				
Turners' work:				
All kinds, unpolished	do	.13	.15	.04
Polished, or painted, penholders of wood (all kinds), combs, with the interior packing	do	.35	.50	.134
All other manufactured, not otherwise provided for	do	Free.	.03	.008

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*1 kilogram=2.2046 pounds.

† Per 4 kilograms.

GERHARD GADE,
Consul.

CHRISTIANIA, *September, 1894.*

AMERICAN RAILWAY SECURITIES IN GERMANY.

No one who has watched the tendencies of public opinion in Europe during the past two years can have failed to notice a growing feeling of suspicion and hostility toward American investments, and notably toward railroad securities. In Frankfort, which was the first European money market to accept the bonds of the United States Government during the dark and doubtful days of the civil war, and where American railroad, municipal, state, and industrial securities of all kinds have been for many years especially popular, this feeling of mistrust has now become so general among bankers and their clients that not only are new American investments of all kinds uniformly refused because of their American origin, but large quantities of railway bonds and stocks which have been held here for years past have been recently returned and their proceeds invested in Prussian consols and other standard securities, which, although less remunerative, are secured by governmental credit and supervision.

A fact so striking as this must be due to no merely accidental or temporary cause. The cloud which overshadows American railway securities in Germany has been raised mainly by the revelations of the past two years concerning the management of several leading railway properties. German investors were heavy losers, and their losses served to call the attention of the people and press more sharply than ever before to the usurpations of power and evasions of responsibility, which, it is claimed, have become so frequent in American railway management. European bond and shareholders have been informed that the power of the president and directors in many important railway companies has become practically omnipotent and irresponsible. They have sent over protests and proxies to be used at elections for the purpose of wresting the control of corporate properties from the hands of officers who were said to be abusing their trusts, and they have seen these and every other effort toward a change easily and hopelessly defeated.

That railway presidents and directors enjoyed large prerogatives and immunities, and that the rights of security-holders were but partly protected by American laws, has been, of course, well known to European investors for years, but that a president or director who has abused his trust may be appointed as receiver of the same property, and, under such new mandate, continue his previous course, and that the accounts of an entire railway system may be falsified and its securities sustained in the market by fictitious statements of earnings and concealment of rebates—all of which is believed here—are discoveries of comparatively recent date.

As a reflex of these discoveries, there has been published recently in this country a clear and concisely written monograph by Dr. Alfred von der Leyden,* an expert official of high rank in the imperial bureau of public works at Berlin, on the financial and operative management of American railways, in which the defects and weaknesses of the present system are probed with a skillful hand. The essay is a record of the studies made by the author during a sojourn of several months in the United States, for which his high official position in Germany, his technical skill in railway finance, and his ready familiarity with published authorities gave him exceptional advantages. His text is written in a fair and judicial spirit; he fully recognizes the fact that some of the leading railway corporations in the United States are managed not only with consummate ability and enterprise, but with scrupulous honesty and regard for the rights of security holders; he points out the comfort and speed of trains, the economy and skill with which freights are handled, and gives full credit to the amazing rapidity with which railroads have overrun and developed the country.

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* See CONSULAR REPORTS No. 165 (June, 1894), p. 192, for synopsis of Dr. von der Leyden's views.

But when he considers the fact that, notwithstanding all the obvious reasons which in a rapidly growing country like ours should make railroads popular with the people and give their bonds and stocks an exceptional stability they are in reality generally unpopular, that there is a widespread antagonism between directors and security-holders, and that more than one-fourth of the entire railway capital of the country covers lines that are either bankrupt or in the hands of receivers, he is led to a study of causes which forms in its conclusions a severe arraignment of the existing system. There is in neither his premises nor conclusions anything that is strikingly original or hitherto unknown; the new and important fact is that his statements are made in the German language, by a writer whose opinions will carry, to the moneyed classes of this country, the weight of official authority. His statistics are derived from the annual reports to and from the Interstate Commerce Commission, and from authors of such recognized standing as Poor, McCain, Hudson, and Prof. Stickney, and some of his most drastic passages are quoted from the treatise of Van Oss, "American Railways as Investments," which last year disclosed to the investing public of Great Britain the same criticisms which Herr von der Leyden now brings to the notice of his countrymen.

It is neither possible nor necessary for the present purpose to rehearse in detail the statements and conclusions of this important pamphlet. American writers and financiers of the highest authority have concurred in pronouncing the present policy a failure, and agree that some general measure of reform is necessary to restore public confidence in railway management and rehabilitate their securities both at home and in the money markets of Europe. It will be a national misfortune if, through the failure of American railway administration, our country should be to a still further extent cut off from dependence upon foreign capital for the development of legitimate industrial enterprises, and this is what is likely to happen unless the weaknesses of corporate management in the United States are thoroughly and permanently remedied.

The uniform reply of German financiers, when asked what is requisite ·store European confidence in American railway securities, is that such corporations should be brought under the control of a comprehensive federal law. Tradition, education, and experience have alike taught the German that, whatever may be the existing form of government in any country, the one sure source of protection and safety in the presence of danger or conflicting interests is the supreme authority of national control.

From the foreign standpoint, the one logical remedy for existing evils is for the National Government to extend its control to the presidents and directors of railroad companies, to the end that they shall be made, in fact as well as in theory, responsible to the owners of the properties which they are paid to manage, and to the public, toward which railways, as public carriers, owe paramount and clearly defined duties.

In Germany, for instance, all corporations are licensed and managed under the provisions of a most rigid and comprehensive statute, enacted in 1862, and elaborated by successive amendments until it reaches every possible detail and contingency in the organization, capitalization, and management of stock companies, specifies minutely the rights, duties, and obligations of officers and shareholders, and requires the periodical publication of certified reports which reveal at a glance the financial condition of each corporation and the progress of its affairs. Much of this elaborate statute is not in accord with the spirit of American institutions, and its adoption without radical modifications would not only be impracticable, but would entail new evils which might go far to outweigh its benefits. But it is believed by many whose experience and interests in both countries entitle their opinions to respect, that it should be possible to frame and adopt a statute applicable to at least all railway companies of the class now subject to the interstate commerce law, and which shall be clear, precise, and inexorable upon the following topics, viz:

(1) Regulation of the elections of railway officers, so that such elections shall be free and open, and represent directly and fairly the wishes and interests of security holders.

(2) Creation of a national bureau of publicity, inspection, and control, providing for the regular publication at stated periods of certified reports, showing fully and accurately the earnings, expenses, acts of directors, and all business results which affect the value of corporate property.

(3) Making each violation of the law by any act of usurpation or willful mismanagement a crime entailing imprisonment, and requiring federal prosecuting officers to institute and conduct prosecutions for such offenses.

(4) Providing a thorough revision of the system of proceedings under which courts of justice now appoint receivers to manage railroads, and making the president or director of a defaulting corporation ineligible for appointment as receiver of the same property.

Until some general measure can be adopted and enforced, and foreign investors can have the assurance they ask for that the published statements of American railway companies are correct and true, and that such maladministration as has been revealed in the affairs of certain systems is no longer possible, all such investments in United States securities will be more or less discredited, and county, municipal, and industrial securities of American origin will suffer.

FRANK H. MASON,
Consul-General.

FRANKFORT, *August 30, 1894.*

MANUFACTURE OF COKE.*

A recent letter of inquiry from a Pittsburg firm respecting the manufacture of coke leads me to the conclusion that the following paper prepared by the late Mr. R. de Soldenhoff, of Cardiff, for the Brussels congress of the Iron and Steel Institute, will be valuable to all concerned in this important industry. Mr. de Soldenhoff, I may mention, was justly esteemed the highest authority in these parts in that line, and the unique experience which made him an expert in his profession shows itself in what is considered an invaluable contribution to the literature of that industry.

ANTHONY HOWELLS,
Consul.

CARDIFF, *September 26, 1894.*

THE MANUFACTURE OF COKE.

[By the late R. de Soldenhoff.]

As a source of heat, generated artificially, metallurgy originally made use of wood in its raw state, containing 40 per cent of carbon and 60 per cent of moisture and gases. The next step was to transform this wood by artificial means into charcoal, a process well known to all. This fuel practically is the pure concentrated carbon of the wood with a very small addition of moisture, and a very small proportion of ash, not exceeding 3 per cent. The next step was the utilization of the naturally accumulated carbon, which goes by the name of coal.

This practice is not yet abandoned, as there is in Scotland 1,000,000 tons of pig iron yearly made by using raw coal in the furnaces. There were also some furnaces in South Wales until quite recently. There are, too, some furnaces in the United States, in the northeast of Pennsylvania, using raw coal. Knowing, however, that Great Britain produces pig iron to the extent of about 7,000,000 tons, it is quite evident that the bulk of this production must be made by the help of different fuel than the coal, and it is universally known that it is made by means of coke; and why is it so?

It was found that the coal in its raw state, when hard, free burning, and in lumps, was best suited for blast-furnace working, but the small coal or duff could not be used for the same purpose. The best coals for that purpose in Great Britain are the Scotch coals, and some of the Pembrokeshire anthracitic coals.

The binding or bituminous coals, as a rule, are not used for that object in their raw state. The use of coals in their raw state for blast-furnace purposes has been accompanied by a great amount of waste in the past, on account of the volatile matters in the coal having been totally lost. The magnitude of the waste may be estimated by the fact that in Scotland about 2,000,000 tons of coal yearly are used for making pig iron, which represents an annual loss of 17,000 tons of sulphite of ammonia, worth at least £178,500 a year.

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* See "Coke Manufacture in Germany," CONSULAR REPORTS No. 169 (October, 1894), p. 264.

The Scotch ironmasters, seeing the success of the gas works extracting ammonia in the production of illuminating gas, were led to consider the feasibility of applying a similar process of extracting the ammonia from the furnace gases.

The difficulties in extracting it, however, are enormous, when it is considered that the whole of the fixed carbon introduced into the furnace, with very small exception, is transformed into carbonic acid and carbonic oxide. In addition to this, there are the carbonic acid of the flux and the nitrogen of the blast, so that the ammoniacal gas does not exceed one-eight hundredth part of the total. Thus, one volume of ammonia is accompanied by 769 volumes of other gases.

It is estimated that each ton of coal burned in the furnace causes a generation of about 90,000 cubic feet of gas, and that it yields only 4.38 pounds of ammoniacal gas. Two eminent firms in Scotland—Messrs. Baird & Co., at Gartsherrie, and Messrs. Merry & Cuninghame, at their Carnboe Works—have erected huge and costly plants to attain the object. It is said that, besides the ammonia, some tar is collected to the extent of 25 gallons per ton. It is, however, found not suitable for extracting aniline colors and benzole, unless it is specially treated. Those that wish to have further particulars should refer to Sir Lowthian Bell's most instructive and charmingly written paper on the "Manufacture of Iron and its Relations to Agriculture," read by him at the Liverpool meeting, in September, 1892, and inserted in the Journal of the Iron and Steel Institute of that year.

It is thus evident that, in Great Britain, there is only one-twelfth part of pig iron made by means of raw coal, and therefore the greatest bulk has to be made by means of coke.

It may be said that the quantity of coal made into coke in Great Britain, if the amount of coke consumed by furnaces, foundries, coke exported, and coke used by other industries is included, amounts to about 35,000,000 tons, and taking the yield at only 60 per cent it may be estimated that 21,000,000 tons of coke is made, out of which about 20,000,000 tons are consumed in Great Britain. This yield of coke leaves the balance (14,000,000 tons) to be subdivided under the following headings: Three million five hundred thousand tons of ash, representing not less than 4,250,000 tons of shale or earthy matters, extracted from the coal before coking by the process of washing, while the balance, 9,750,000 tons, is represented by volatile matters—hydrocarbons and nitrogen. The process of separating the volatile matters from the fixed carbon is popularly known as coking, and takes place in appliances known by the name of coke ovens. The process itself, as carried on, mostly is a process of destructive distillation, and it takes place in an oxidizing atmosphere. The ultimate result of this mode of working is, on the one hand, coke, and, on the other hand, carbonic acid, carbonic oxide, and nitrogen, with a very small quantity of sulphuric acid.

The importance of the product obtained—the coke—is such that, however short a space I wish to devote to it, I am bound to describe the principal apparatus used for coking in Great Britain. Of these there are three, namely: (1) The beehive oven; (2) the Welsh or rectangular oven; and (3) the Coppée oven.

THE BEEHIVE OVEN.

This consists of a round chamber, covered with a spherical dome, provided on the top with an opening for putting the coal inside the oven, and a front through which the coke is taken out—an operation known as "raking the oven."

The diameter of the oven is usually 12 feet, the height from the floor to the top of the dome being on an average 8 feet. The coal charged mostly remains under operation for forty-eight hours. It is lit on the top and in the middle of the circumference from the reflected heat of the arch, concentrated in the center of the upper surface of the coal, the other portions of the oven being at that time cold, owing to the fact that the coke is always cooled inside the ovens by water.

The coking starts on the surface, the gases generated being burned partly between the arch and the top of the charge; this space may be called the combustion chamber of the oven. The heat so produced in the combustion chamber of the oven propagates the coke from the center of the charge to the surrounding walls, at first in the upper layers, and propagates the coking downwards to the floor. That is why the whole charge is composed of pillars of coke, the length of which is the thickness of the charge. The top of each pillar is the top of the upper surface of the charge, and the foot of the pillar is the foot of the charge, or the surface of the charge touching the floor.

The coke, when cooled, preserves the silver appearance, but if a complete pillar is examined it will be found that the color grades slightly from the top to the bottom by getting darker and darker.

The portion of the pillar touching the floor generally is, if not black, very dark; that portion is called the "black foot." This gradation of color exists on account of the temperature, which gets lower as we get nearer to the floor.

It must not be lost sight of that the upper layer of the charge gets the full benefit of the heat produced in the combustion chamber, while the lower strata are separated from the combustion chamber by the upper crust of coke, which is a bad conductor of heat. The waste gases leave the oven through the charging hole into the air in some cases—I will say in most cases they are collected in a flue, which takes them down to the chimney, situated on the end of the block of ovens. Generally, before reaching the chimney, the sensible heat of these gases is utilized for heating boilers.

The air required for partial combustion of the gasses is, as a rule, supplied in an adventitious manner—that is, by a hole made anywhere for that purpose, in the door or in the charging hole, or it leaks through the crevices of the oven.

It will easily be seen that the process, as described, is a slow one, and one leading to a waste of coke, consumed by the constant leaking of the coke by the air required for the combustion, so that the yields in coke are low.

It may be said here that some method has been contrived to improve these old-fashioned systems of ovens, viz, by introducing the air into the oven at will, in quantities to be regulated, and, besides, by permitting the air to be superheated.

This last improvement, if carried out properly, increases the yield of the oven. The averages, from information which I have received regarding the weekly make and yields, referring to beehive ovens, are as follows: From 6 to 8 tons of coke are produced weekly, which yield in coke varying from 53 to 63 per cent. These last figures vary in accordance with the yield of coal in volatile matters, and also in accordance with the state of the oven and the care taken in manufacturing the coke. In spite of the defective points shown above, the beehive oven is the one which is most generally used, and, I dare say, I am not far out in stating that of the total yearly quantity of coke made in Great Britain 85 per cent is made in beehive ovens.

THE WELSH OVEN.

This consists of a rectangular chamber, covered with a flat arch, and provided with a door on one end. The width of the oven is from 7 to 8 feet, the length from 13 to 15 feet, and the height does not exceed 5 feet. The oven is provided on the top with one or two charging holes, and in the front with a lifting door. One oven is separated from the next oven by a relatively narrow wall, not exceeding 2 feet thick.. The back wall of the oven is also provided with an opening, through which the waste gases escape to reach the flue leading the same to the chimney, and before doing so very often are utilized for heating boilers.

These ovens receive the charge of coal from the top, which is properly leveled, and as, within recent years, the cooling of the coke in the ovens has been abandoned, the charge is ignited by the reflected heat of the arch, and also by the transmitted heat through the relatively thin side walls separating the oven from its neighbors. The space between the arch of the oven and the charge constitutes a combustion chamber; the heat therefore generated in the combustion chamber acts directly on the charge. The middle portion of the batch of coke is therefore produced in a similar manner as in the beehive ovens, while the two side portions of the coke are produced by the transmitted heat of the side walls, and consequently the side coke does not have a pillar shape, but a conical one, very often called cauliflower.

These ovens are, I may say, exclusively used in South Wales, and they produce about 10 per cent of the total quantity of coke made in Great Britain.

The process is by no means faster than in the beehive oven. The average make per week in these ovens may be taken at 6 tons 5 cwt., and the yield can be put down at from 58 to 60 per cent.

The air required is mostly supplied to them in the same manner as in the beehive ovens, and it could also be improved in a similar manner. In a few places these ovens have been flued under the floor and in the side walls, and then, although the make is higher and the yield better, they, as a rule, do not last long, and require a great deal of repairs. They are consequently gradually falling into disuse, and generally the Coppée ovens take their place.

THE COPPÉE OVEN.

This consists of a long, rectangular, narrow chamber, provided with a flat arch, on the spring of which are situated on each side of the oven twenty-eight openings. Each side wall is provided with twenty-eight vertical flues, their starting point being the twenty-eight openings just mentioned, and their end at the horizontal flue situated under each oven.

Some twenty-eight years ago, when this oven was invented, two ovens were working together, or, in other words, they were connected. Now, instead of having two, we have four ovens connected and working together. In other words, this means one oven in four compartments.

I will dispense with describing the oven minutely, not wishing to occupy your time with too many details.

Below the flues under the floors there is a series of horizontal flues for heating the air. They receive the cold air here from the outside, and deliver the hot air into a vertical shaft, which again delivers it into two horizontal flues situated on the top of the oven at right angles to their axis, while two flues deliver the hot air into each side wall. Each oven is provided with three charging holes situated on the top, and two doors, one on each end of the oven.

The usual length of the oven is 30 feet; the width varies from 17 inches to 2 feet, according to the class of coal treated; so does the height, which varies from 4 feet to 6 feet 6 inches.

Assuming that the oven is red-hot, the coal is charged into it by the three charging holes, and after being leveled and the doors closed, the charge ignites on the top. The gases are very abundantly generated, not only by the direct heat produced between the top of the arch and the top of the charge, but also by the transmitted heat of the two side walls and the floor of the oven. The gases generated escape with great facility from the oven through the fifty-six openings situated by springs of the arch, and enter the side walls, where, mingling with the hot air, they burn, and restore to the side walls the heat that has been taken from them by the introduction of the new charge of coal.

Four ovens are connected together, and as each of these are charged very nearly at equal intervals, it means a new spurt at equal intervals for each of the four ovens coupled together. The heat of the gases escaping from the oven must be pretty well exhausted, considering that the total section of the flues in each side wall is equal to some 1,000 square inches, which fact allows the gases to travel at a low speed, and consequently to give a chance to the brickwork to absorb the heat carried by them.

The mode of operation having been described, it will be plainly understood that the batch of coke coming out of the oven has the shape of a rectangle resting upon its small base. The vertical section of a batch decomposes in two trapezoidal parts and two triangles. One triangle is the lowest portion of a batch, the base of which is the width of the oven and the apex of which is about 10 or 11 inches from the floor, and upon the axis of the oven.

The second triangle is the upper portion of the batch, the base upwards and the apex downwards, the base being also the width of the oven and also the top of the batch.

The two trapezes are symmetrically situated; the wide bases of both are the side walls, and the small bases are the line of axis of the oven connecting the two apexes, as described above.

Each of the four parts decomposes eventually into a series of triangles in the verticle section. Practically the whole batch decomposes into a number of cauliflowers. The mathematical regularity of a section of a batch shows immediately if any oven is in good working order or not. The working of the ovens, therefore, is excessively rapid, and this shows itself by the fact that the weekly make per oven varies from 11 tons 15 cwts. to 15 tons. The yields vary from 56 per cent to 78 per cent, according to the quality of the coal. The coke is cooled outside the ovens; therefore, the color of the coke is not so bright as the beehive-oven coke. As to the moisture in the coke, it becomes simply a question of care in the manufacture to keep the moisture down.

UTILIZATION OF VOLATILE PRODUCTS.

It has already been stated that 9,750,000 tons represent the volatile matters—hydrocarbons and nitrogen. Going back thirty years, it will be found that the greater portion of the volatile matters, except that which partly burnt in the ovens, causing the coking, was wasted. Now, however, in most cases this is not the case, as what is not burnt in the ovens is utilized, to a certain extent, for boiler-heating purposes.

In order to show approximately how the 9,750,000 tons of volatile matters are disposed of, the first and most important point will be to estimate the equivalent of those gases in coal, and then to find the quantity of those gases by its coal equivalent consumed in the ovens for the purpose of coking. After finding this, there will be a balance left to the good, which will show the heating power of the gases left, and ultimately show the number of boilers to be heated by them, and the horse power to be produced.

In order to solve this first portion of our query, it is necessary to borrow certain figures to be found in Stahl und Eisen, in the article entitled "Entwicklung und Gestaltung der Koksindustrie durch die Verwerthung der Nebenerzeugnisse," by Mr. B. Leistikow, 1892, pages 818–826. The figures are as follows: One hundred cubic meters equal to 3,500 cubic feet, equal to 37.6 pounds weight of gas, taking 0.4 as being the specific density of the gas at a temperature of 0° C. and atmospheric pressure. This is equal as heating energy to 193 pounds of coal.

Knowing that 37.6 pounds of gas are equivalent to 193 pounds of coal as heating energy, I find that one pound of gas equals 5.13 pounds of coal, and one ton of gas is equal to about 5 tons of coal. Consequently, I find that 9,750,000 tons of gas equals about 50,000,000 tons of coal. Knowing further, that in order to generate the gas out of a ton of coal about one-fifth of the equivalent found in coal is required for the coking process itself, while four-fifths are to be utilized in the present state of the coking manufacture for generating steam, the four-fifths give 7,800,000 tons of gas, or their equivalent in coal of 40,000,000 tons.

Assuming that a pound of coal evaporates 6 pounds of water, in practice, there is evaporated 240,000,000 tons of water; and knowing, also, that 36 pounds of steam are required to produce one horse power, it is seen that about 7,000,000 horse power will require about 100,000 Lancashire boilers of 7 feet 4 inches diameter, each capable of generating 68 horse power. Roughly speaking, there are 2,000,000 coke ovens in this country to generate this power, which would mean 20 coke ovens per each boiler. Knowing, on the other hand, that the greatest number of ovens used for heating a boiler is 15, the number of ovens required for heating the above number of boilers would be 1,500,000, so that assuming there are 100,000 boilers heated by coke ovens, there would be half a million of ovens wasting their gases, which would mean a waste of gas equal to one-fifth of the quantity to be utilized for heating purposes, and expressing it in the equivalent of coal, would mean 10,000,000 tons of coal wasted yearly.

Expressing now the value of gases utilized and wasted in money, we find that putting the price of 3*s*. per ton of coal, representing the equivalent of one-fifth of a ton of gas, the value of the gases that could be utilized is £5,000,000, and the value of gases wasted is £1,000,000.

I have assumed that 100,000 Lancashire boilers are in operation in connection with coke ovens. I have had no opportunity to verify this, but I am under the impression that the number is nearer half of the figure, and the value utilized will not exceed £2,500,000, and the value wasted £3,500,000.

I have shown just above how the waste gases are utilized, and to what degree; also the value of them.

The way of utilizing the gases in that manner, as described, for a long time was recognized as not being satisfactory—as far as forty years—the first efforts having been made in Belgium and France to save them from destruction, in order to extract from them ammonia and tar.

No doubt, the gas works practice of extracting tar and ammonia has been an example to the coke manufacturer; equally has it been so to the Scotch ironmasters in their blast-furnace working. The first efforts, however, in that direction have not at all been a success. The coke was of very poor quality, and the by-products difficult to dispose of. We must remember that only about thirty years ago the usual way in which the gas works could get rid of their tar was by burning it as fuel, while the ammoniacal liquors passed into the sewers.

It is only ten years back, and not more, that the question of saving the by-products in the coking process was revived. The public interest in the matter was very great, and a series of interesting and instructive papers were read before this institute on the subject by (among others) Prof. Watson Smith and by Dr. Otto, followed by very interesting and exhaustive discussions. Prof. Watson Smith has illustrated his paper with all the systems of ovens at the time invented for the purpose of collecting by-products. I see my own name among a series of others as a patentee of an oven designed for that purpose. The meeting was held in Middlesbrough, and the members visited, I remember, a batch of ovens erected by Messrs. Simon-Carvès for Messrs. Pease and Partners, at Crook.

Dr. Otto, in Germany, I do not think at that time had any of the Coppée-Otto ovens in operation. However, he has made very rapid strides since, as within the last few years he has erected, up to 1892, 470 ovens in Westphalia, 705 in Silesia, and 30 in the Saar district, while on the other hand, in Great Britain very little has been done. The total number of by-product ovens in use, I am certain, does not exceed 200, and this includes 40 ovens of the Semet-Solway type at the works of Messrs. Brunner, Mond & Co.

I do not propose to describe in detail the Simon-Carvès ovens, nor Coppée-Otto ovens, nor Solway's, because they have been fully described and illustrated before.

I wish, however, to say that during the period of ten years I have taken a great deal of interest in the subject, and tried to contrive an oven which has qualities that others have not. Dr. Otto's installations in Germany, which are certainly the most complete among those that exist, are very costly on account of the whole condensing plant being duplicate for obvious reasons, viz, in the case of something going wrong with the condensing plant, the whole concern would be stopped, and consequently the original trifling cause may lead to a great deal of trouble and loss.

The principal feature in the oven that I propose is that the gases are not drawn direct from the oven, as general in practice, but from a flue situated in the top of the side wall on each side of the oven. This flue, by means of two dampers situated on each end of it, may be at will connected or disconnected from the flues situated inside of the side walls, so that when the two dampers are in their normal position the oven is working as a closed vessel, and the gases are drawn to the condensing plant at first. If, however, for any cause it is necessary to turn the oven into one working in the presence of the oxidizing atmosphere, the dampers are shifted, and the burning gases are admitted into the side walls first, under the floor after, and ultimately into the main flue.

Before going any further, as I do not wish to hurt any one's susceptibility, I must say that I have deliberately omitted the beehive oven, with all its so-called improvements with reference to by-products, because even if I felt the greatest sympathy with that class of oven, which I do not, I could not rationally admit any such alteration or improvement which would have an object of getting by-products not equal (and in reality they are inferior) in quality to those obtained from the Simon-Carvès ovens, Coppée-Otto ovens, or any other of that class. The importance of extracting tar and ammonia, in the shape of sulphate of ammonia, from the gases has been shown by Sir Lowthian Bell in his admirable paper on "Manufacture of Iron and its relation to Agriculture." We all know that the vegetable world lives to a great extent on nitrogen, and although the air we breathe contains 75 per cent of nitrogen, the plants and trees do not assimilate it as such—that is to say, the vegetable world does not take the nitrogen directly from the air, and the nitrogen has to be dished up for them as sulphate of ammonia or ammonia, and it is only as such assimilated by them. This is the theory of the famous Dr. Liebig. It has been found by Dr. Otto, who has constructed, as stated above, the largest number of by-product ovens, and who uses the most complete condensing plant, that one ton of coal gives 25.54 pounds of sulphate of ammonia, plus 60.84 pounds of tar.

I have stated that in Great Britain 35,000,000 tons of coal are made into coke. Therefore about 400,000 tons of sulphate of ammonia and about 900,000 tons of tar are lost to the community. Putting the sulphate of ammonia at the present price of £10 10*s*. per ton, we get the value of £4,200,000. Deducting from this amount 33 per cent for working expenses, it leaves as net value £2,800,000. Putting the value of tar at 32*s*. 6*d*. per ton, we obtain £1,462,500. Therefore we waste yearly £4,262,500.

Further, it is stated that after the condensation of gases—that is to say, extracting tar and ammonia and utilizing the heat required for the ovens—sufficient heating power is left in the gases to the extent of being able to evaporate not less than one ton of water per every ton of coal charged into the ovens, and by gases otherwise escaping. The heat required for coking purposes is the same here as what is wanted in ordinary coking. This I have estimated to be equal to 1,950,000 tons of gas, or equal to 10,000,000 tons of coal.

The gas efficiency here, as said before, remains only very slightly altered, and we make out that the heating power of those gases is worth about £1,500,000, so that the total value of waste in this case will amount to £5,762,500.*

I do not wish you to be under the misapprehension that, as nothing has been said about the quality of coke, I am timid on that subject, especially knowing that very likely the majority of you are in favor of beehive-oven coke. In my opinion, the quality of coke made in Coppée ovens or in by-product ovens, if not superior, is equal in all respects to beehive coke.

There is very little doubt in my mind that the heating power of the gases of ordinary coking could be utilized in more than one way, and it occurs to me that it could be utilized, for instance, for the destruction of solid sewage; and I do not see why in large mining centers, where the population is very dense, and where a large number of coking installations are in existence, the waste heat could not be utilized for sanitary purposes. It is so much more important that the moisture in the solids, which carries a great deal of ammonia with it, could be collected and made into sulphate of ammonia and utilized for fertilizing purposes.

Some years back I made some experiments with reference to this matter, so that I am not speaking on the subject as altogether a stranger to it.

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*It should be noted that the gases resulting from this mode of coking, and after their cooling for the purpose of extracting tar and ammonia, may be expected at any reasonable distance to yield their heating efficiency. In most respects they are much superior to the waste heat resulting from ordinary coking. Therefore, could they not be utilzed at a distance and create power where it is wanted? It is also to be considered if the coking should not with advantage be located, not near the collieries, as at present, but nearer the large centers of population, where their energy could easily be utilized.

Table of results of coke made in beehive, Welsh, and Coppée ovens.

Where the coke comes from.	Volatile matter of the coal used.	Washed or not.	Ash in coke.	Class of oven in which coke was made.	Density of coke.
	Per cent.		*Per cent.*		*Per cent.*
Durham			9.37	Beehive	1.25
Glamorgan Coal Company (South Wales), Llwynpia	22	Washed	4.55	Welsh rectangular	1.11
Do	22	do	4.20	Coppée	1.36
St. Helen's Colliery, Cumberland	40	do	7.25	do	1.28

SUGAR EXPORTS FROM CUBA.

I have the honor to inclose a statement showing the exports of sugar and molasses from Cuba during the six months ending June 30, 1894, compiled by the Boletin Comercial of this city (Habana).

Exports of sugar of the present crop (1893–'94) from the island of Cuba from January 1 to June 30, 1894.

To—	Bags.	Hogsheads.	Tons.	Per cent.
United States	5,686,974	7,748	792,397	95.66
Great Britain	34,626		4,791	0.58
North of Europe	6			
Spain	118,843		16,447	1.99
Other ports	106,049		14,676	1.77
Total, 1894	5,946,498	7,748	828,311	100
Total, 1893	3,050,984	14,059	556,512	
Increase in 1894	2,895,514		271,799	
Decrease in 1894		6,311		

Exports of molasses of the present crop (1893–'94) from the island of Cuba from January 1 to June 30, 1894.

To—	Hogsheads.	Tons.	Per cent.
United States	35,008	26,568	83.87
Great Britain	6,719	5,099	16.10
Spain	11	8	0.03
Total, 1894	41,738	31,675	100
Total, 1893	29,319	22,268	
Increase in 1894	12,419	9,407	

According to these statements, the United States has taken 95.66 per cent of the sugar exports and 83.87 per cent of the molasses exported this year from Cuba.

RAMON O. WILLIAMS,
Consul-General.

HABANA, *August 20, 1894.*

EXPORTS FROM SPAIN TO THE UNITED STATES.*

Declared value of exports from Spain to the United States during the quarter ending June 30, 1894.

Articles.	Barcelona.	Cadiz.	Grao.	Madrid.	Malaga.	Total.*
Almonds					$15,269.68	$43,873.17
Antiquities		$345.85		$338.57		684.42
Artificial stone baths	$63.00					63.00
Brandy (sherry)		247.39				247.39
Capers						393.74
Cigarette paper	417.00					417.00
Cork		12,738.58				63,635.90
Cork wood		94,365.42				94,365.42
Earthenware		292.97				262.97
Glycerin	79,176.00					79,176.00
Grapes					1,009.20	1,009.20
Grey pease		99.26				99.26
Colocynth apples					325.70	325.70
Iron pyrites		40,606.83				40,606.83
Licorice	29,286.00	8,370.60		1,232.85		58,916.76
Licorice paste		6,002.30				6,002.30
Mineral water	3,467.00					3,467.00
Oil paintings	60.00	1.930.00				1,990.00
Olives		90,479.24				90,479.24
Olive oil					278.36	278.36
Oranges			$369.34			369.34
Orange peel					277.08	277.08
Ojen's brandy					162.32	162.32
Onions						221.00
Preserves					271.40	271.40
Palm-leaf hats					27,120.30	27,120.30
Saffron	617.00		2,298.49			2,915.49
Salt		2,148.42				2,148.42
Soap				2,248.43		2,248.43
Sulphur ore		48,866.54				48,866.54
Sundries		151.02	43.48	12.83		207.33
Tartar	41,842.00					41,842.00
Wine	1,567.00	153,647.94	298.47	11.58	972.66	164,312.44
Total	156,495.00	460,292.36	3,009.78	3,844.26	45,686.70	777,287.75

* Exports declared at the following consulates are included in the above totals: Alicante ($5,764.24 worth of almonds and $20,029.31 worth of licorice), $25,796.55; Bilbao (wine), $292; Denia (onions), $221; San Feliu de Guixols (cork), $50,897.32; Palma (capers), $393.74; Santander (wine), $539.37; Tarragona ($22,836.25 worth of almonds and $6,983.42 worth of wine), $29,819.67.

There were no declared exports from Torrevieja, Port Mahon, San Sebastian, or Carthagena.

HANNIS TAYLOR,
Minister.

MADRID, *September 25, 1894.*

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* Received too late for publication, with similar statements of declared exports, from Austria-Hungary, Belgium, Canada, Germany, Italy, Mexico, Netherlands, Russia, Sweden, and Norway, Switzerland, Turkey, the United Kingdom, and West Indies, in CONSULAR REPORTS No. 168. Statements of declared exports (also received too late for insertion in No. 168), from British India and France, were printed in No. 169.

THE VANILLA BEAN IN MEXICO.

This bean is too well known to require a description at my hands. It is not difficult to grow, neither is it very laborious to cultivate. The district in which it is principally produced in Mexico is in the canton of Papantla, southwest of Tuxpan, about 30 miles back from the Gulf, in that section of country lying between the Nautla and Tuxpan rivers. In the forests, on the low hills of the above-named canton, it grows wild and in such profusion that the odor from it is sometimes sickening. In its wild state, it is considered common property and gathered by the natives without cost to them, except the labor of picking. A French colony, settled along the River Nautla, has gone into the cultivation of the bean pretty extensively, and seems to have improved it.

The soil on which the bean grows is a rich, sandy loam, or a vegetable mold, not too dry, and shaded—the wild by the forest trees, and the cultivated by small trees planted for the purpose. The temperature where it grows is a mean of about 85° F. for the year—never very cold and never very hot, and the altitude up to 1,000 feet above sea level.

Planting.—The bean grows on a vine larger than the hop vine, but similar in its growth. Slips of the vine are planted, about three in number, at the foot of small trees, in ground prepared by spading or turning over the soil close to the tree; no other cultivation seems to be needed. These trees are planted 8 or 10 feet apart, the vine running or climbing to the top, whence it is conducted by poles from one tree to another, resembling a hop field. The ground between the trees is not disturbed, except immediately about the roots, where it is cultivated twice yearly. The vine does not produce during the first year, and very little the second, but in the third it is supposed to bear a full crop, which is about 10 to 12 ounces of first-class beans, 10 to 16 ounces of second-class beans, and 15 to 20 ounces of third-class beans. This weight is after curing. The life of the plant is 10 years.

Gathering.—From October 1 to January 1, the beans are picked or harvested, and, I am told, care must be taken that they are not bruised or packed close in large quantities, as overheating spoils them.

Curing.—Some place the beans in bake ovens, heated to about 120° F. for twenty-four hours; after that they are placed in woolen blankets and exposed to the sun—that is, the blankets are exposed, the beans being covered by them. Others tell me that the beans must be dried in the shade and never exposed to the sun, because such exposure would damage them by discoloration.

Preparing for market.—After the beans have been treated as above, they are made up in bundles of fifty beans each, and wrapped in tin foil. The best are generally put in tin cylinders covered at both ends and holding one package of fifty beans, or about one pound each, in which condition they are considered fit for market.

Cost and price.—The people who gather the vanilla are the natives (Indians) of the country, who are paid at the rate of about 50 cents per diem, Mexican money, without food or lodgings. Prices for labor, however, fluctuate, as it is the old question of supply and demand that governs prices.

The vanilla bean in this market is worth at present about $7 per pound, Mexican money (about $3.50 American money). This is the average price; the best is much higher and the poorest much lower. The cultivation of vanilla is considered very remunerative, and is a business easily learned.

Growing of vanilla and preparing it for market are two entirely different occupations, there being as much difference as there is in growing sugar cane and making sugar. There are about three men in the whole Republic of Mexico who seem to understand the correct process of curing the beans, and these men have made fortunes out of the business.

CHARLES SCHAEFER,
Consul.

VERACRUZ, *September 30, 1894.*

PHYLLOXERA TREATMENT IN SPAIN.*

The system of treatment decided upon, after full consideration of all the remedies suggested or heretofore tried in vine-growing districts similarly affected in other parts of Spain and in France, is, briefly stated, a liberal use of pure sulphuret of carbon, and the uprooting of all vines diseased beyond remedy, and the replacing of the same with American *vides* (stocks). The plan contemplates the complete extinction of all vineyards in which the invasion of the plague is so complete as to forestall recovery or restoration by cultural treatment, and replanting with new stocks, better adapted to resist the attacks of the parasite, as soon as the ground shall have been thoroughly disinfected.

Where this remedy of extinction (*tratamiento de extinción*) is decided to be necessary, a solution of 20 grams of sulphuret of carbon for each square meter of surface is applied, repeating the dose at intervals until about 300 grams shall have been injected into each square meter of soil. This strong treatment not only destroys the *focos* or cells of the parasite, but the very roots of the vines to their farthest extremities, and so impregnates the soil as to render it fatal to the existence of the plague germs.

For the cultural treatment, which is to be used in vineyards recently invaded, in which the vines are still sufficiently healthy and vigorous to warrant reasonable hopes of reclamation, a lighter solution is used, proportioned for the injection, of 200 kilograms (440 pounds) of sulphuret of carbon per hectare (2.471 acres) at each application. As a hectare of vineyard usually contains about 4,500 vines, the quantity of sulphur injected into the space occupied by each *cepa*, or stock, at each application is about 44 grams.

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* For reports on Phylloxera in Spain and Portugal, see CONSULAR REPORTS No. 167 (August, 1894), p. 644.

This treatment, begun in the autumn, should be repeated in the late spring or early summer following, the best time being about the middle of July.

In addition to this treatment of the stock and roots of the vines, and the earth which surrounds them, another solution, prepared according to the formula of Mr. Balbiani, is used to smear or coat the stems and branches of the vines. The formula is as follows: Dissolve 60 parts of crude naphthaline in 20 parts of humic acid (*aceite pesado de hulla*), mixing with it 120 parts of slacked lime (*calgrasa*). When the lime is at the point of slacking and still fuming, add immediately 400 parts of water.

The method of applying the sulphuret of carbon in the cultural treatment above described, is by means of injectors of proper size and shape to force the solution down to the root of the vine and disseminate it through the adjacent soil. A number of machines have been invented for this purpose, some of them quite simple in construction and inexpensive, and others so elaborate and costly as to place them out of the reach of the viticulturist of small means.

They may be classified under two general heads—staff injectors (*palos inyectores*), and traction injectors (*arados sulfuradores*). The former is the apparatus most generally used because of its cheapness and simplicity of operation. There are numerous models, but those in most common use are the designs invented by Mr. M. G. Gestine.

The staff injector, as the name indicates, is attached to a staff which has a hollow metal point, which is forced into the earth to a depth of 8 or 9 inches by the pressure of the foot in the same manner that a gardener thrusts a spade into the ground. As soon as this is done, the handle of the piston of the injector at the top of the staff is pressed down, and the solution contained in the reservoir of the machine is forced into the earth through the *agujero* or hole made by the point. The injections should be made at intervals of 45 centimeters (about 15 inches) each way, and there should be a convenient arrangement for refilling the reservoirs of the injectors. The traction injectors resemble somewhat in appearance and construction an ordinary American corn-planter or single cultivator. The foot goes into the earth in the same manner as a cultivator, opening a narrow channel or furrow of the required depth, into which the solution is injected from the reservoir placed on the beam of the machine, the piston of which is operated by the traction power.

In order to make the work of combatting the progress of the plague as thorough and effective as possible, the *viñeros* in all the affected districts and those menaced with invasion have organized themselves into committees of defense, and have taken all the necessary steps to carry out the plan of extirpation above described. These committees have made full and minute reports to the central organization, giving particulars as to all vineyards in their respective districts suffering from the insect, and the number of vines attacked in each. From these reports, it would appear that of the 8,034 hectares (19,852 acres) of land planted in vines in the Jerez district, the badly diseased vines cover an aggregate area of only 18½ hectares (45.71 acres), a very small fraction of the whole. It should be understood, however, that this area embraces only the vineyards in which the presence of the parasite has been noted during two or three years past. There are other vineyards in which it is just making its appearance, and it is these vineyards and the others not yet affected which the proprietors hope to save by a vigorous system of defense.

The Government at Madrid voted a credit of 500,000 pesetas ($96,500) to aid and stimulate the efforts of the local authorities to remedy the evil. In addition to this, the municipal councils of Jerez de la Frontera and other cities interested in the wine industry, have voted considerable sums for the same purpose, and it is understood that the proprietors of all vineyards that are free from the disease, upon the recommendation of the committee of defense, have consented to the imposition of a tax of one peseta (19.3 cents) per hectare (2.471 acres) of their respective vineyards, in order to provide for the application of remedies and to pay indemnities to those whose vineyards may be uprooted to prevent the spread of the plague. The local committees of defense will supply sulphuret of carbon and other necessary apparatus to the more indigent proprietors in order to enable them to apply the remedy.

Campos de experiencias, or experimental vineyards, will be established in each one of the three divisions into which the sherry wine-producing district is classified, according to the character of the soil, to test American and other stocks in order to ascertain those best suited to such kind of soil and yielding the best results when grafted with the sherry cuttings. Nurseries of these important stocks will be established in connection with each of the experimental stations.

As a matter of interest in connection with this report, I will state that the shipments of sherry wine from this port (Cadiz) during July were 2,656 butts of 132 American gallons each (350,592 gallons), making the total, for the seven months ending with July, 27,721 butts, against 30,630 butts last year, and 30,266 butts in 1892.

CHAS. L. ADAMS,
Consul.

CADIZ, *August 21, 1894*.

DISEASE IN WÜRTEMBERG VINEYARDS.

On Sunday last, over two hundred owners of vineyards, or persons interested in the culture of the grape, met in this city to discuss a new disease that has this summer attacked the grapevines in this Kingdom. The meeting proved that the disease was general through the country and was still spreading; it was not, however, shown where it came from or what name should be given it. It was found that the disease was much less severe in those vineyards which had been syringed with a solution of copper. Prof.

Dr. Von Ahles stated that the weather this year, owing to its changeableness and continued dampness, had been unusually favorable to all plant diseases, and that not only grapes but vegetation generally had suffered much. The professor recommended using a solution of copper and vitriol. The use of sulphur he also recommended, but thought it could not be depended on in all cases. Another speaker described the great rapidity with which the disease spread. He said it was a kind of fungus that grew so luxuriantly that, within twenty-four hours, seeds to the number of millions dropped from it to grow again in their turn. Ten years ago, when the grapes in this consular district were attacked by a disease known as *Oïdium erisipile* they were split open. This time, however, they shrivel. The fungus fastens itself on the extreme outer portion of the grape, and sits so fast that it can not be removed with the fingers. The moment it touches the grape it begins its work of destruction. This fungus belongs, without question, to the lowest kind of insect life, and is a kind of mold; it attacks only perfectly formed grapes, which generally fall to the ground when blighted, but in cases where they remain on the bunch, the disease spreads at once to the adjoining fruit. It is estimated that one-third of all the grapes have already been ruined, and it has so spread that it is questionable if any can be saved. The last speaker said the disease was known in America, and had attacked the vineyards there in 1892.

ALFRED C. JOHNSON,
Consul.

STUTTGART, *August 17, 1894.*

AMERICAN FRUIT IN ENGLAND.

The largest shipment of American fruit ever received in England from the United States, arrived by the steamship *Paris* at Southampton on Wednesday, August 22. It consisted of 6,000 packages, weighing in all 110 tons. The officers of the American line at Southampton, in courteous reply to questions, informed me that the fruit arrived in apparently good condition. It consisted of a few grapes and large quantities of pears, plums, and peaches. The chamber in which it was conveyed from New York to Southampton was kept, by mechanical means, uniformly at 40°. It was consigned to Messrs. W. N. White & Co., Covent Garden Market, London, fruit and potato merchants and brokers, who have ten warehouses, sale rooms, and offices in London, and also a large place in Liverpool. As various reports were current concerning this enormous shipment, I essayed to gain accurate particulars from the firm, and received a letter from Mr. W. N. White, the principal, which contained the appended information:

Owing to the extreme heat prevailing in the United States before the goods were shipped, most of the pears arrived in New York from California too ripe. Messrs. White & Co., speak, however, in the highest terms of the painstaking care of the American line. An agent of the consignees met the steamer at Southampton, and found that the temperature of the room in which the fruit was stored had been kept at a uniform rate of 40° during the voyage. At this temperature, Mr. White states, other conditions being favorable, the fruit should have arrived in good order. It was sold at auction to the highest bidder at the sale rooms in Covent Garden. The prices paid were:

Pears:		
Ripe	per box	$1.00 to $1.50
Green	do	2.00 to 2.50
Do	per half box	.50 to .97
Plums	per half crate	1.25 to 2.00
Peaches	do	.97 to 1.25
Nectarines:		
In good order	do	2.50
In poor order	do	.97 to 1.25

Only three crates of grapes arrived at this time, and they were considered very poor indeed. No quotations have been given for them. The greater portion of the grapes sold in the English market are grown in home greenhouses. They are superior in size and flavor, and are very expensive. Foreign grapes, usually, are not agreeable to the English palate.

The fruit, as a whole, would, however, have given satisfaction to the buyers had it not been overripe. To use an expression common to the trade, "it went rotten too soon." To insure success hereafter, the fruit should be plucked before it is entirely ripe, due allowance being made for the distance it has to travel and the market in which it is sold.

Concerning the pears, Mr. White states that "had they arrived green and in good condition, they would have brought fully 30 to 50 per cent more," thus showing that the transaction would have resulted profitably to the consignors. This fact seems to augur well for the future. Growers should know what markets their fruits are harvested for, and govern themselves accordingly. For instance, the California fruit-grower should select fruit for the English market in condition that would stand a journey of fifteen to eighteen days, including delays.

The plums, which keep better, were magnificent and in fine condition; therefore, they brought good prices, notwithstanding the adverse circumstance that the English crop is very heavy this year and of good quality. The peaches and nectarines were nearly all in very bad condition. A few of the latter in fairly good order realized a good price.

This sale was attended by agents and buyers from all the inland points. Henry Scott, wholesale fruit merchant of 113 and 114 St. James' Market, Bradford, bought some of this fruit for sale in the local market. I called upon him personally and obtained his views as follows:

> Had it not been for the fact that some of the fruit was too ripe, it would have given satisfaction. The plums were especially fine. On the whole, I did not make money by the transaction.

There is an immense market for fruit in England, especially in the interior, if it could only be placed before the people in good condition. With the exception of grapes, which, as before stated, are both good and expensive, most of the fresh fruit is wretched stuff. Early cherries are good, and, now and then, good pears are found, though most of the latter bear evidence of having been picked in an immature state and then ripened in the natural process of decay. The melons (somewhat similar to the American muskmelon) are a travesty. They are imported from Spain, and must be gathered before they have obtained their full growth and while yet entirely green. They turn an unhealthy yellow, ripening in the windows of the shopkeepers. I have purchased these melons for my own table and found four out of five unfit for food. In some cases, the seeds were only half developed, and in one melon, more mature than others, in which the seeds had fully developed, they had sprouted from lying in the melon so long. Yet these unwholesome things fetch from 18 to 25 cents each at retail, while in the United States, those of the most luscious character often go begging at 5 cents. The English melons grown in greenhouses are edible, though lacking in fine flavor. They cost from $1 to $2 each at retail. An American cantaloupe, nutmeg, or common muskmelon, would be a revelation in this market and command instantaneous sale. It would seem to me perfectly feasible also to place American watermelons on the English market. The freshly plucked melons of New Jersey and Delaware could reach here in good season and comparatively fresh. Plums are always to be found, English grown, and very nice. As to apples, the only good ones found in the Bradford market are from the United States, and they are highly esteemed; the Newtown pippin is considered a great luxury, and being a good keeper, is easily handled. The Spanish and Italian apples are plucked green and exhibited in a wilted, leathery condition, and have no distinct apple flavor. They are neither good to the taste nor wholesome. Inviting-looking peaches and nectarines are seen, but cost at retail from 4 to 12 cents each. I have paid the latter price for them within a week. The English gooseberries are the largest and finest in the world, and the same can be said of the strawberries. The raspberries, currants, and bilberries are good, but the season is short. Pineapples, luscious and ripe, are retailed at extraordinary prices, and one dealer, whom I know, has received as high as $5 for a single one. Tomatoes are good. Bananas are small and of miserable quality. Oranges and lemons can be obtained in about the same assortments and grades as at home, and, in season, are not exorbitant in price. It will be seen, therefore, that, with good conditions of transportation existing, there ought to be an almost unlimited market here for our apples, cherries, oranges, peaches, apricots, nectarines, pears, bananas, grapes, watermelons, muskmelons, cantaloupes, and grape fruit.

A Bradford retail fruiterer, in a large way, informs me that one reason why American fruit is not seen in the provincial and retail markets is because of the extortionate railroad charges. Liverpool would be the natural port, for instance, from which Bradford would obtain its imported fruit. But the railroad rates make it impossible to do so at a profit. A Bradford merchant can have a barrel of fruit sent him through from New York, ship freight, railroad freight, and all included, for $1.12, while the same thing from Liverpool alone, a distance of only 80 miles, costs 97 cents. There are splendid markets in Liverpool, and were it not for this excessive railroad rate, Bradford fruit merchants would buy in that market almost by the carload. As the same thing applies to dozens of inland towns, it can be seen how the American market suffers through this discrimination. From London, on the contrary, which is much further distant than Liverpool, the rate on fruit to Bradford is only 97 cents per cwt., and special rates are given to large centers. Several Bradford fruit merchants buy in the London market and have special rates, both for their freight and themselves as passengers, to and from the sales. The unjust discrimination on the part of the railroads exists not alone against the foreign fruits, but applies to the home market as well. In the fruit districts of Kent, Worcestershire, and Devonshire, magnificent plums are said to be rotting by the hundreds of bushels because the railroads refuse to haul them to the markets at a rate at which they can be sold. It is strange, too, that this contumacy is in the face of a growing demand by the people, caused, in a large degree by the physicians, who are constantly urging upon the English people (who are not naturally fruit lovers) the necessity of eating more fruit that they may avoid certain disorders to which they are subject, owing to their ordinary diet. It is a notable fact, too, that higher rates of freight are charged for soft and overripe fruit than for that which is hard and green, on account of the increased difficulty in handling.

It will be seen that none of the difficulties mentioned are insurmountable. It is to be hoped the time is coming when wholesome, health-giving, American fruit can be found in every retail market in England. By concert of action on the part of exporters, importers, and those engaged in transportation, this hope can be realized with profit to all and delight to the people.

CLAUDE MEEKER,
Consul.

BRADFORD, *September 7, 1894.*

MINING INDUSTRIES OF AUSTRALASIA.

In consequence of the recent gold discoveries in the colony of West Australia, this consulate-general has been besieged with letters of inquiry from residents of California, Colorado, Nevada, and other mining States with reference to the advisability of the writers coming here. I therefore deemed it best to prepare the following report upon the mining industries of this continent in answer to such inquiries.

There is a good opportunity here for miners from the United States well versed in the best methods of obtaining gold, but it is absolutely necessary that they come well provided with both funds and experience; with sufficient of the former to last them at least six months, irrespective of what gold they may obtain. The machinery and appliances in vogue here are not altogether the latest and best—in many cases, they are quite obsolete. If some of our large manufacturers of mining machinery and appliances would send representatives out to these colonies it would, in my opinion, well repay them.

VICTORIA.

The chief products of the colony of Victoria are minerals and wool. Previous to the year 1876, the value of the former was far in excess of the latter, but since that date, owing to the decreased yield of gold, the value of the wool clip has been gradually gaining ground. In 1892, there were 80,505,334 pounds of this staple produced in Victoria, the value of which was $17,616,655.98, while the yield of gold for 1893 was 671,126 ounces, which, being computed at $19.48 per ounce, gives a value of $13,073,534.48. The total yield of gold for the colony of Victoria, taken from the returns from 1851, the year of the discovery, to the end of 1893, has been 58,772,555 ounces, valued at $1,134,888,371.40, but there is every reason to believe that the yield has been much greater.

Between 1851 and 1884, no official record was kept beyond that of the local registrars, and the estimates, so far as the earlier years are concerned, are based chiefly on the returns of gold exported from the colony, inclusive of 1,267,241 ounces, which, according to the tables of the registrar-general, were raised in Victoria from 1852 to 1855, but passed through the customs of New South Wales, Tasmania, and South Australia. A small quantity of gold was manufactured into jewelry in the colony during the years referred to. Gold was brought down to Melbourne by lucky diggers, who never reported the quantity or value, but took it with them to Europe in belts around their bodies. The *Royal Charter*, which was wrecked off the British coast, had on board a number of these miners as passengers, and on the bodies washed ashore were found thousands of ounces of gold.

The value of gold per working miner, of course, varies according to the number of men on the various fields. The minimum was $330.40 per head in 1876, and the maximum, $529.79 in 1885, which was brought about by the large discoveries on the alluvial fields.

The largest field of alluvial gold in the colony is the Creswick and Kingston district, located from 113 to 115 miles from Melbourne, where there is one continuous lead of 7 miles in length which has been and is still being worked. Here, the subterranean stream is raised, puddled, and sluiced off in the ordinary sluice boxes, the average depth of shafts being from 350 to 450 feet.

An old field is now being worked with great success at Rutherglen, where dry leads are being opened, the water having beaten the miners in the early days.

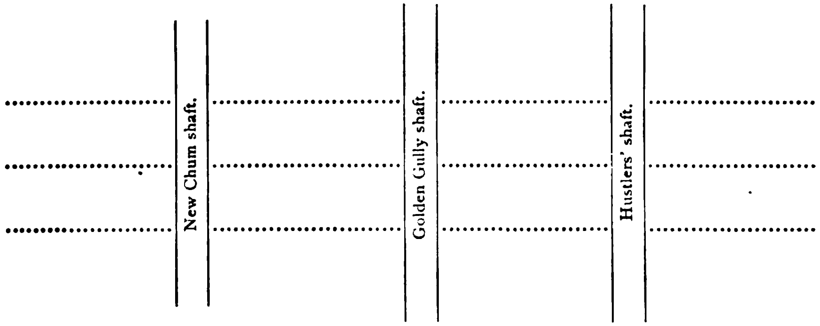
In the mountains of Omeo, and in the northeastern part of the colony, the hills are sluiced away by giant nozzles, which is the same method as that pursued by the Californian miners. During the past two years, owing to the terrible depression in all branches of business, thousands of men have been thrown out of employment and have been compelled to turn their attention to mining, and many new and paying discoveries have been made, among which may be especially mentioned the alluvial finds in Gippsland and other eastern provinces. This part of the colony has been very little worked, as gold was unknown in this district during the early days of mining.

Quartz mining.—The bulk of the gold raised during the past five years was obtained from quartz and ironstone matrices, Bendigo and Ballarat being the largest fields.

In this connection, it may be interesting to mention the ten mines having the deepest shafts in Victoria.

Mines.	Depth.	Mines.	Depth.
Bendigo:	*Feet.*	Bendigo—Continued.	*Feet.*
Lansells 180 mine	3,000	Carlisle Company	2,485
New Chum and Victoria Company	2,800	Victoria Consols Company	2,482
New Chum Consolidated Company	2,632	New Chum United Company	2,396
Lazarus Company	2,595	Stawell:	
New Chum Railway Company	2,533	Magdala Company	2,409
Victoria and Pandora Company	2,500		

Sinking or driving here is not so rapid as in the United States, owing to the fact that the ground is hard and difficult to work, and the appliances used are not the latest inventions. If some of the improved machinery used in the California and Nevada mines could be imported into Victoria, the yield here could be materially increased, and I would draw the attention of our manufacturers of mining machinery to this market. A new plan of mining has recently been decided upon in the Bendigo district, where the reefs are of saddle formation and run in three different lines, thus:



As the gold at great depths has decreased, it is now intended to come up to the higher levels and crosscut the intervening country, as shown by the dotted lines.

New discoveries.—In the snow country, about 200 miles northeast of Melbourne, new discoveries of a mineral stone have recently been made at a depth of from 70 to 80 feet. The ironstone turns to a pyritous formation, which prevents the saving of gold by the ordinary crushing process. Chlorination and concentrating works are now being erected in the district.

The following are the returns for the year 1893 from some of the principal quartz mines:

Mines.	Ounces.	Mines.	Ounces.
Star of the East Company, Ballarat	22,216	Black Horse United Company, Egerton	10,650
Johnson's Reef Company, Eaglehawk	21,327	South German Company, Maldon	9,962
Long Tunnel, Walhalla	19,291	United Hustlers and Redan Company, Bendigo	8,924
Princess Dagmar Company, Eaglehawk	16,350	New Mariners' Company, Steiglitz	8,192
New Red, White, and Blue, Eaglehawk	13.474	Last Chance United Company, Ballarat	7,923
Long Tunnel Extended Company, Walhalla	12,442	Lord Nelson Company, St. Arnaud	7,747

The following are the largest yields reported from the leading alluvial mines during the year:

Mines.	Ounces.	Mines.	Ounces.
Berry Consols Company, Smeaton	20,398	Berry No. 1 Company, Smeaton	8,003
Madam Berry Company, Smeaton	16,103	Great Northern Company, Rutherglen	7,750
Great Northern Extended Company, Rutherglen	11,017	Prentice Freehold Company, Rutherglen	7,033
Madam Berry West Company, Smeaton	9,681	Chalk's Freehold Company, Craigie	6.968

During the year, $2,843,755.26 were paid in dividends by mining companies throughout the colony, being a decrease of $177,526.72 on the amount paid during 1892. The following are the amounts paid in each mining district:

District.	Amount.	District.	Amount.
Sandhurst	$1,030,599.38	Castlemaine	$201,028.73
Ballarat	1,001,734.65	Ararat	80,498.09
Beechworth	248,233.64	Maryborough	69,319.58
Gippsland	212,137.20		

The principal dividend-paying companies were:

Companies.	Amount.	Companies.	Amount.
Johnson's Reef, Eaglehawk	$208,176.00	Long Tunnel, Walhalla	$127,595.00
Star of the East, Ballarat	187,008.00	New Red, White, and Blue, Bendigo	109,575.00
Berry Consols, Smeaton	177,750.00	New Mariners', Steiglitz	100,443.75
Madam Berry, Smeaton	149.022.00		

At the end of the year, there were 25,519 men employed in gold-mining, being 2,001 more than were at work in 1892; included in the number are 241 Chinese.

During the year, owing to the financial depression, a great number of young men have applied to the mining department for advice as to how to conduct mining operations. Many of these are wholly unused to digging for gold and for the assistance of such Mr. R. A. F. Murray, F. G. S., Government geologist, has written a number of suggestions, which have been issued by the Hon. J. H. McColl, Minister of Mines. Some of the hints may be of use to intending miners in the Western States. I append a few extracts:

Recent discoveries from time to time in Victoria have shown how easily accessible gold resources are, far from exhausted, and, speaking from a general knowledge of the gold fields such as few possess, I adhere to the opinion that properly directed labor will lead to further valuable developments over the whole length and breadth of our auriferous areas.

As these remarks are intended mainly for the inexperienced and possibly poor men who are now trying their luck at digging, to whom deep sinking in wet ground would be impracticable, and who want to get a little gold for subsistence as quickly as possible in easily worked ground, I may be excused for giving suggestions that are thoroughly familiar to any one who has worked even a short time upon the gold fields. In shallow ground, that is, where silurian rocks are close to the surface and the alluvial deposits resting on them are thin, gold is principally found in the gullies and flats, or in layers of gravel, rubble, etc., on the slopes and sometimes in the surface material on the hillsides. As a rule, the gold is found in the stuff resting immediately on the silurian bedrock or bottom, whether it be a few inches or many feet below the surface, and it is, therefore, usually necessary to reach this "bottom" before gold can be expected. A very brief inspection of old workings will soon enable the veriest tyro to recognize the character of the bedrock, and to know when he reaches it in sinking.

It is recognized beyond dispute that alluvial gold was derived from the wearing down of vast quantities of rock containing auriferous quartz reefs or veins. The gold contained in the rock so denuded or worn has been more or less concentrated in the gravelly or rubbly deposits in gullies, creeks, river beds, flats, terrace gravels, leads, etc., but in the rocks which remain, there also exist the unremoved downward continuations of the quartz reefs, lodes, veins, etc., which were the sources of the alluvial gold supply. It may be taken as a general rule, as regards Victorian gold fields, that wherever alluvial gold had been found, there must exist in the silurian bedrocks of the locality the continuation of the quartz reefs, of which the removed or degraded upper portions furnish the alluvial supply; and, great as has been the development of quartz mining in the past, the actual length of lines of auriferous reef so far discovered is very small compared with the extent of the worked alluvial ground, and, as free gold, owing to the weight, will not travel very far, it follows, as a general principle, that where rich alluvial gold has been found and no quartz reefs have yet been developed, it is simply because these reefs remain to be discovered—not that they do not exist. I would therefore advise energetic prospecting for these reefs on any field where alluvial gold has been found in the past; and the first thing the prospector has to find is where that alluvial gold started from, which he can do by observing the old workings, or where it became suddenly more plentiful as followed down, also to be learned from the appearance of the old workings or from local tradition.

These are the places where the adjacent hillsides should be most carefully explored for reefs or veins. The covering of surface soil and clay on the bedrock is sometimes an impediment, though most usually not very thick, especially on all the great western fields, but the process known as "loaming" is an excellent method preliminary to trenching or sinking. This consists of taking surface prospects along the slopes of the hills wherever a little scattered quartz can be seen in the soil, noting the localities, and washing the samples. If a speck or so of gold can be found at one or more places, the next step is to return thither and take more prospects at closer intervals, working gradually up hill, until no more gold can be found. Where the gold ceases is usually near and above the reef or vein whence it was derived, and it is here that more exhaustive search should be made by trenching or "costenning" through the soil a short distance into the underlying bedrock in search of the quartz. "Indicators" or small veins of pyrites, ironstone, and often thin bands of peculiar slate, intersected by small quartz veins, should also be carefully looked for. For instance, the prospector, after an inspection of a tract of country worked in the past for alluvial gold, finds a certain line up to, but not beyond, where the old workings extend. The natural inference is that adjacent to such line must lie the reef which supplied the gold. He then proceeds to take "loam" prospects along that line, but at first well on the down side of it, and as described before.

When he finds specks of gold, he traces them uphill to where they cease, and then searches for the reef, vein, lode, or "indicator." Some men have a peculiar faculty for this style of prospecting, and many good reefs have been found by its means, and it is generally applicable to all the rangy silurian country in which alluvial gold deposits have been found. There are, of course, many localities in which quartz reefs can be seen outcropping on the surface, and have been more or less prospected without results, even in good alluvial fields; but it is not always the most prominent reef that contains the gold—just as often some unnoticed vein, or one concealed by a covering of surface soil, or an indicator. No reef should be regarded as worthless because a few trials have yielded no results. Gold in reefs occur in "shoots," and once a line of reef is found which appears to be a possible source of supply, it should be followed along its course and tested at many short intervals for a considerable distance, according to the position of the old alluvial workings which head from it.

A very common mistake, even among experienced miners, is to waste time and labor in sinking on reefs before proving the existence of gold in them. It may be laid down as a rule that if a reef is at all auriferous, gold will be found somewhere along its outcrop, and until this is met with, there is no use in sinking any considerable depth. I do not know of any auriferous reef in Victoria where gold is not, in the first instance, found at the surface, but was subsequently found at depth. By "surface," is here meant the silurian bedrock, whether covered or not by alluvial deposits.

As a final piece of advice, follow the gold when found, trace it patiently by close prospecting up to its source, and take note of every particular quartz vein or band in the silurian rock with which the gold seems to be associated. Should a loose piece of quartz be found, observe carefully the stone and search upwards for the reef or vein it came from.

Minerals other than gold.—The quantity of minerals other than gold which were raised in Victoria during the past year was very limited, the principal one being coal, the output of which was 91,726 tons for the year 1893, being an increase of 68,363 tons on the output of the previous year. This does not include brown coal or lignite, of which 2,500 tons were raised.

Tin ore.—During the year, only 52 tons 15 cwts. of tin ore were raised in the colony. Eldorado contributed the most of this.

Antimony.—There were 88 tons 5 cwts. of antimony raised during the year at Heathcote and Templestowe.

A limited number of our experienced miners from California and other States where gold has been successfully raised could, I think, make a living working in the alluvial fields in this colony, but I would strongly advise immigrants to bring with them sufficient capital to support themselves for at least six months, independent of any gold they may collect.

SOUTH AUSTRALIA.

This colony is not so rich in minerals as either Victoria or New South Wales, the chief product being copper.

Copper.—The first mine of any importance was the Kapunda mine, discovered in 1843, the first ground being broken in the following year. Two years later (in 1845), the famous Burra Burra mine, located 90 miles to the northeast of Adelaide, was discovered by a shepherd named Pickett. Mining operations were commenced the same year, and a writer on the colony remarked that "the history of this mine is the history of the commercial progress of South Australia." In 1860, a more extensive discovery of copper than that of the Burra Burra mine was made at the head of Yorke's Peninsula, located a few miles southwest of Adelaide, and accessible for shipping the ore. The deepest shafts are at the Moonta mine, where a shaft has been sunk to a depth of 1,320 feet, and at Wallaroo, 1,020 feet. The quantity of copper raised during the year 1892 was 53,074 cwts., valued at $643,034.80, and of copper ore, 500 tons, valued at $1,626.58, making a total of $644,661.38 of this mineral shipped from the colony.

Gold.—This mineral has been found at and around Echunga, 21 miles southeast of Adelaide, and during the year 1881, some rich specimens were discovered at Woodside. In 1886, alluvial gold was found on the Tutulpa Run, 230 miles northeast of Adelaide. During the year 1892, 6,596 ounces were raised, valued at $107,092.39.

Silver.—A few silver mines have been found in the southern part of South Australia, near Cape Jervis, but the discovery of silver at Broken Hill, in New South Wales, although outside the territory of the colony, is having an important influence on the commercial prosperity of South Australia, as this colony being the nearest shipping port the mines naturally ship their exports, as well as draw their chief supplies, from this source. As the same formation extends within the South Australian border, it is not unreasonable to expect that valuable mines will be discovered in this colony, as already silver has been found in paying quantities.

Manganese.—The only other mineral of any importance is manganese ore, the output of which, in 1892, was 704 tons, valued at $7,431.62.

WEST AUSTRALIA.

Until quite recently, this colony was considered to be destitute of mineral deposits of any value, with, perhaps, the exception of the rich deposits of lead and copper in the North Hampton district, which were found and worked in the early days. Recent discoveries have, however, indicated that this is a rich gold-bearing colony, as nearly every day fresh discoveries of gold are coming in.

Toward the close of the year 1887, gold was found by Mr. H. E. Anstey, on the Vilgarn Hills, about 200 miles east of Perth, and the Government geologist prophesies that it will, in time, become one of the richest fields in Australia, as the reefs, which extend in all directions, are gold-bearing and improve with depth, the chief difficulty being scarcity of water for mining purposes; but steps are now being taken by the Government to conserve the water on the different gold fields, which, I trust, will meet with success.

In August, 1892, a rich discovery was made by a man named Bailey at a place called Coolgardie, 100 miles east of Southern Cross, who raised 600 ounces of magnificient specimens of gold. This naturally caused a rush to the district, but lack of water drove many away. Nuggets ranging from 12 to 60 ounces were frequently found. Six men working for four weeks on the Bailey's Reward claim, with the use only of the roughest tools, raised 2,500 ounces of gold, which is valued at $48,700. This gold was lodged at the Union Bank of Perth and was visited by many mining experts.

Although it is impossible to form any decided opinion in regard to the permanency of the Coolgardie gold fields, as the shafts are only from 9 to 15 feet deep, it is the opinion of geologists that the precious metal will be found at greater depths.

The following comparative returns for 1891 and 1892 have been issued by the commissioner of customs, and may be of interest as showing the increased output of gold for twelve months:

Year.	Quantity.			Value.
	Oz.	*Dwt.*	*Grs.*	
1891	30,311	1	9	$560,936.34
1892	59,548	6	4	1,102,000.99

NEW SOUTH WALES.

This colony produces a greater variety of minerals than any other in Australasia, as will be seen by the following table of the quantities and the value of the same produced in the year 1892:

Description.	Quantity.	Value.
Silver ... ounces	350,661	$277,025.08
Silver lead and ore ... tons	133,354	11,790,036.24
Coal ... do	3,780,968	7,121,829.56
Gold ... ounces	156,870	2,771,891.19
Tin and tin ore ... tons	3,492	1,529,735.18
Copper and regulus ... do	4,834	934,128.22
Shale ... do	74,197	662,704.73

Until recently, the chief product of the colony was coal, but since the discovery of the celebrated Broken Hill mine, the value of silver reported is nearly twice that of coal. For many years, silver has been raised from mines in Sunny Corner, also in what is known as the New England district of New South Wales, but it was not until 1883 that any extensive discoveries were made. In September of that year, Charles Rasp, an employé on the Mount Gipps sheep run, in the western part of the colony, while mustering sheep on what is known as the Broken Hill paddocks of this run, was struck with the mineral appearance of the surface. Rasp, a well-educated German, after further examination, concluded to communicate with Mr. George Mc-

Culloch, who was at that time manager and part owner of the run. He stated to him that he believed the bluff at the end of the hill was a mass of tin. Together, they pegged off blocks which are now leases Nos. 13, 14, and 15, which include Broken Hill itself. In conjunction with Messrs. Pool & James, contractors on the run, Rasp secured block No. 12. These blocks were applied for in the names of George McCulloch, George Urquhart, and C. A. M. Lind. Two more blocks, now 10 and 11, were applied for to the south of No. 12, and one block to the north of No. 15. Seven blocks were then secured, being nearly two miles in length on the line of the body. The interest in those seven blocks was amalgamated into one private company, known as the Broken Hill Mining Company. Toward the end of 1884, the existence of "chlondes" was discovered in Rasp's shaft, and from that date the prosperity of the mining company was assured, and on the 12th of August of the following year, the Broken Hill Mining Company was floated into the Broken Hill Proprietary Company (limited), with a capital of $1,558,400, of which $87,660 were paid in cash by the contributing shareholders. After this capital had been paid in, a very valuable deposit of ore was struck, and a large quantity has since been taken from this part of the mine. The first 50 tons of this ore were sold to a smelting company in Melbourne, and yielded to the company a net return of $36,525, so as a matter of fact, the cash capital was not required, nor has the company asked the shareholders any advance whatever.

The lode varies in breadth from 2 to 300 feet; its depth is unknown, the deepest shaft being now a little over 800 feet. A new shaft is being sunk to work a depth of 3,000 feet. At the present time, 3,352 men are employed at Broken Hill, and the wages paid for six months ending May 31, 1894, amounted to $1,411,624.81. The gross value of silver and lead for six months ending May 31, 1894, if estimated at the present market value, will amount to $6,132,378.43. The company, after paying in dividends since the formation in 1885 $24,038,220, and cash bonuses amounting to $2,199,920, have a reserve fund of $608,750. Besides the large smelting works at Broken Hill, the company have additional works at Port Pirie, in South Australia, which is also the shipping and receiving port. The Broken Hill silver mines are undoubtedly the most valuable in the world.

Coal.—Coal is found extensively in the eastern part of the colony, the measures extending from the twenty-ninth to the twenty-sixth parallel, south latitude, and cover an area which approximates to 23,950 square miles. The most important mines are in the Newcastle district, but valuable seams are being worked at Wollongong, Maitland, and Lithgow. The New South Wales coal is well adapted for steam purposes, while its gas-producing properties are superior to the best Welsh coal. This coal is exported to Washington, Oregon, and California.

Shale.—At Hartley Vale, near Bathurst, vast deposits of kerosene shale, which had been discovered and worked on an extensive scale, are being carried on for the manufacture of oil.

Gold.—This precious metal was first discovered by Edward Hargraves, in 1851, since which date it has been discovered principally in the interior of the colony, west of the Blue Mountain range. The number of men employed approximates to 11,166, of whom 708 are Chinese. The average yield from quartz is 18 pennyweights 13 grains, and from wash dirt, 9 pennyweights 10 grains to the ton.

Tin.—Within the past few years, large quantities of tin have been discovered. The area in which this mineral is found is estimated at 8,500 square miles, the principal source of supply being in the beds of rivers and creeks (stream tin); small quantities are also found in veins and lodes.

Copper.—The only other important minerals to be found in the colony are copper and iron. The copper fields are said to cover an area of 6,713 square miles, but owing to the present price, even the richest copper mines have been worked at a loss.

Iron.—Iron is found in the vicinity of Jervis Bay, but operations to a limited extent are being carried on at the Fitzroy mines. The effort to establish iron works in the colony have, thus far, proved unsuccessful, though it is believed that within the next few years works will be erected which can be carried on at a profit.

Precious stones.—Diamonds and opals have been found to a limited extent in the colony.

QUEENSLAND.

Gold.—Gold is the most valuable mineral to be found in this colony. The first discovery was made at Caroona, about 35 miles from Rockhampton, in July, 1858, though as early as 1853, Mr. Stuchbury, the Government geologist of New South Wales, is reported to have found gold in small quantities near Port Curtis. No further important discoveries were made until the year 1867, when the Queensland Government offered rewards varying from $974 to $4,870 for the discovery of new gold fields, which naturally stimulated prospecting, and a number of valuable reefs were found. During the earlier part of the year, a large nugget weighing 100 pounds and valued at $19,480, was unearthed at Gympie, 120 miles from Brisbane. This led to the discovery of the celebrated Gympie mines, the quartz here being very rich, and numerous claims are profitably worked. There are, at the present time, about twenty-two gold fields in the colony, the greater number of which are located on or near the coast. The extent of the alluvial and quartz ground worked covers an area of 14,028 square miles, and the number of miners employed on these fields, inclusive of 641 Chinese, is 9,306. The Chinese devote their attention almost exclusively to alluvial mining.

Copper.—Owing to the present depression, copper-mining is practically suspended, though 81 tons were raised in 1892.

Tin.—The principal tin mines are found in the Herberton, Stanthorpe, and Cooktown districts, near the northeast coast of the colony. It is thought by many geologists that this metal will be found to be almost inexhaustible in Queensland.

Coal.—The character of Queensland coal will compare favorably with that of the coal from the celebrated Newcastle mines. The coal beds underlie an area of 24,000 square miles, and it is believed that at a greater depth the quality will improve.

Silver and silver lead.—A small quantity of this mineral has been found in the Ravenswood and Bowen districts.

Precious stones.—Sapphires, diamonds, agates, and rubies are to be found in the creeks. Opals have also been found in various districts, and in 1892 opals to the value of $48,700 were collected.

Recapitulation.—I append a table of the quantity and value of the most important minerals raised from the mines of Queensland in the year 1892:

Description.	Quantity.	Value.
Gold .... ounces...	615,558	$10,492,186.11
Coal .... tons...	265,086	600,509.96
Tin .... do......	2,389	599,487.26
Silver lead	....	177,443.32
Total........	....	11,869,626.65

TASMANIA.

The most valuable product of the colony of Tasmania is tin, which, to a certain extent, rules the tin market of the world. From 1873 to 1890, inclusive, 53,874 tons of metallic tin and 6,414 tons of ore were exported from the colony. Mr. R. M. Johnston, F. L. S., the Government statist, states that the yield of metallic tin up to the present time would represent a column as high as Mount Wellington (4,166 feet) and nearly 8 feet square.

The greater portion of the tin produced in Queensland and Tasmania is usually returned as the product of New South Wales, owing to the fact that the two former colonies ship the greater part of their tin to New South Wales, whence it is shipped to England together with the tin actually produced in that colony. This has the effect of exaggerating the actual yield of tin in New South Wales, and diminishes the importance of the tin production of Tasmania and Queensland.

The following table will show the false position in which the colony of Tasmania is placed:

Value of imports, by countries, of tin into the United Kingdom and the actual exports from countries of production in the year 1893.

Country.	Nominal imports.	Actual exports.
Straits Settlements........	$6,541,558.44	$6,541,558.44
Australia:		
New South Wales........	3,208,903.16	1,130,838.35
Tasmania........	118,629.20	1,741,448.69
Queensland........	135,883.05	759,597.26
All other countries........	612,107.76	443,638.87
Total........	10,617,081.61	10,617,081.61

Of the 324,033 tons of metallic tin imported into the United Kingdom from 1877 to 1890, inclusive, Tasmania produced 58,242 tons, or nearly 18 per cent, and, therefore, stands next to the Straits Settlements as the most important tin-producing country of the world.

The most important tin mine in Tasmania is the Mount Bischoff, at Waratah, in the northwestern part of the colony. The mine was discovered by Mr. James Smith in 1871, and at the present time, produces one-half the tin product of Tasmania. The other mines are the Arba and "A. J. J.," at Branxholm; Kruska Bros. and Black Boy, at Ringarooma; Blue River and Ruby Flat, at George's Bay, on the east coast, and a number of smaller claims. Tin has recently been found on the west coast, in the Mount Zeehan district.

Gold.—The first payable gold was found in 1852 near Fingal. About the same time it was discovered in minute particles in the vicinity of Nine Miles Springs, now known as Lefroy. In June, 1877, the celebrated quartz reef now known as the Tasmania gold mine, Beaconsfield, was discovered by Mr. William Dally. Other reefs have been more recently found in this district, from which gold has been raised in paying quantities, the yield being from 1 ounce 5 pennyweights 6 grains to the ton in 1882 to 1 ounce 4 pennyweights 21 grains in 1890. The total quantity of gold raised in Beaconsfield, from 1866 to 1890, inclusive, was 330,530 ounces, or over 56 per cent of the total yield of the colony. The other important mines are the New Native Youth and Pinafore, at Lefroy; New Golden Gate, at Mathinna; and a number of mines on the east coast of the island, which have not been fully developed.

Silver and silver lead.—A number of rich deposits of this mineral have been found on the west coast of the island. Ore has been found at intervals in over some 30 square miles of country, but the field has not yet been thoroughly tested at a depth. The principal fields are the Mount Zeehan, Mount Dundas, Hazlewood, and Whyte River districts, the most important mines being the Western, Silver King, and Mount Lyell.

Coal.—The only other important mineral to be found in Tasmania is coal, the largest deposits being in what is known as the Fingal basin, near the east coast, the two important mines being the Cornwall and Mount Nicholas. A railway has, within the past few years been constructed to the mouth of these mines, and the coal is now used for steam purposes on the locomotives. The other seams are located, one on the Mersey, near Latrobe, and one at Jerusalem, 40 miles north of Hobart.

The total value of all minerals raised in the Australian colonies, including Tasmania, from the date of the first discovery to December 31, 1892, amounts to $1,954,296,939.80.

ACKNOWLEDGMENTS.

Before concluding this report, I wish to acknowledge my indebtedness to Mr. I. G. Nash, mining editor of the Melbourne Argus, and to other gentlemen connected with the press for valuable information in regard to the various mines; also, to Mr. F. M. Dickenson, secretary of the Broken Hill Proprietary Company, for reports and statistics of the mines at Broken Hill.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *August 10, 1894.*

QUEBEC AGRICULTURAL EXHIBITION.

From the 10th to the 15th of September inclusive, the city of Quebec was the scene of the annual exhibition of domestic live stock and agricultural and industrial produce of the province of Quebec. The English and French speaking citizens of this old province competed together at this exhibition for prizes upon the very site—the Plains of Abraham—where, one hundred and thirty-five years ago this month, their respective ancestors met in mortal combat. Amongst the bunting that decorated the various exhibition buildings, there were nearly as many American and French flags displayed by exhibitors as there were British or Dominion flags. Even the military exhibit of the royal Canadian artillery, the chief features of which were the sword of General Wolfe, a small brass cannon captured by the British at Bunker Hill, and two immense modern guns intended for the new Pacific coast defenses of Esquimault, B. C., was decorated with a combination of British, Dominion, American, and French flags.

Owing to the generally reputed backward condition of agriculture in the province of Quebec, the show of choice graded cattle was rather surprising. Some very heavy specimens of Herefords, Durhams, and Holsteins were shown and much admired, but these were chiefly the property of professional cattle-breeders, and are by no means kept by the ordinary farmer here as they are in western Ontario and upon the ranches of the Canadian northwest. These beef-producing cattle require more stall feeding with grain and roots than could be easily raised in this province, where the soil, producing excellent pasture, is much better adapted for dairy farming. Ayrshires and Jerseys, therefore, attracted the principal attention of local visitors to the live-stock exhibits. Valuable cattle of both these grades were shown, the Jerseys being by far the more highly prized in this province, being hardier and more easily kept than the Ayrshires. The Jerseys, too, while yielding a smaller quantity of milk than the Ayrshires, produce a much more valuable dairy article, so far as quality is concerned, their milk containing a very much larger proportion of the essential oils of butter and cheese. One cow exhibited at the fair, and owned within 4 miles of the city of Quebec, was purchased with a guarantied yield of 18 pounds of butter per week. Small in size and economical in keep, as these graded Jerseys are, they are neither quite so small nor quite so hardy as what are known as the Canadian Jerseys—for the most part the product of a cross between the small Breton cattle of the early French settlers of Canada that have escaped the dangerous habit of inbreeding and the imported Jerseys. These Canadian cattle stand a great deal of hardship and thrive upon very ordinary pasture, though they naturally repay greater care. They are found to be the most profitable cattle for the rough pasture lands of this province, and would doubtless prove a very advantageous breed for numbers of farmers in the Eastern and Northeastern States.

A large quantity of the prime Canadian butter and cheese, such as that which attracted so much attention at the World's Fair in Chicago, was on exhibition. The impetus that has been given the dairy industry in this province within the last few years is very remarkable. Canada's entire export of cheese amounted to 133,946,365 pounds in 1893, against 124,320 pounds in 1860, 5,827,782 in 1870, 40,368,678 in 1880, and 94,260,187 in 1890. In this province alone, the output of cheese has increased from 1,889,000 pounds in 1870 and 8,771,000 pounds in 1880 to 30,511,000 in 1890. The 25 cheese factories that existed in this province in 1871 had grown to 140 in 1881 and to 617 in 1891, and the value of their output from $123,961 in 1871 to $2,362,595 in 1891. The total quantity of butter manufactured in this province in 1890 was 32,892,000 pounds.

In horse flesh, the exhibit was not very remarkable, with the exception of a few very heavy Percherons. These would be more serviceable in the United States or in western Canada than Quebec, where they would be almost useless in the deep snows of winter upon narrow country roads. A few good roadsters were shown, but not much fancy trotting stock. There were several good specimens, however, of the hardy French-Canadian pony. This useful little animal, usually running only from 14 to 15 hands high, walks through heavy snow, whether in the woods or upon heavy country roads, with the greatest ease. It is quite at home in pulling a heavy wagon, or the peculiar Quebec calèche, up the fearfully steep hills of the city and its environs, and is often quite fast in harness, besides possessing the advantage of being exceedingly economical to keep.

The exhibits of sheep were not very numerous, and they are not extensively kept in this province.

A marked improvement is visible in the exhibits of hogs, which are being fattened here by farmers in much larger numbers since the increase in the number of cheese and butter factories, which also increase the refuse milk supply for feeding this class of stock.

To the American visitor at the exhibition, one of the most interesting exhibits was that of agricultural produce. The grain shown was exceedingly good, long in the straw, and heavy at the head. Wheat, in particular, was very long in the ear, and it is surprising how quickly it is brought to perfection in the short, but hot, summer season of Canada. Some of the specimens exhibited, though from seed only sown on the 15th of May, were housed in the barn by the 15th of August. As proof that pretty high latitudes will produce wheat of good quality, it may be mentioned that the first prize was taken by some grown at Lake St. John, about 150 miles north of Quebec.

Vegetables were very large and fine, particularly potatoes, turnips, onions, beats, cabbages, etc., many of which are shipped from Quebec to Montreal and other points.

The display of flowers was also exceedingly beautiful, while the hothouse grapes compare favorably with California grapes.

Turning to the industrial part of the exhibition, the most creditable display of homemade wares was in the two departments of carriages and agricultural implements. The most elegant equipages that could be wished for were exhibited by both Quebec and Montreal manufacturers, and reaping and thrashing machines and other agricultural implements made in various parts of this province compared favorably with the output of factories in Ontario.

A company called the Union Sardiniere du St. Laurent does a large busicess in canning in oil the small sardines or young fish of the herring variety, which are taken in great numbers in the River St. Lawrence, a few miles below this city. They exhibited a variety of their wares, which are similar to those put up in some places on the coast of Maine, and compare favorably with some of the European product.

A firm from New Brunswick show smelts put up in similar form.

No pianoforte, organ, or sewing-machine manufacturers in this province made exhibits, though there are factories here. All the instruments and machines shown came either from Ontario or the United States. Elegant shows of hand and machine-made furniture and boots and shoes were made by manufacturers in this city, as well as good exhibits of leather of various kinds. In fact, the manufacture of leather and boots and shoes ranks among the foremost of Quebec's industries. Labor is so cheap here and real estate so low that it is surprising that more capital is not invested in manufacturing enterprises. Interesting exhibits were made by Quebec manufacturers of asbestos goods and of trunks, and also by the Canadian Rubber Company, of Montreal. Horn and ivory buttons were shown by a manufacturer here who makes them from the hoofs of cattle and the African ivory nut.

Magnificent specimens of copper ore were shown from Capelton, in the eastern township, and from mines along the line of the Canadian Pacific Railway.

PHILIP B. SPENCE,
Consul.

QUEBEC, *September 19, 1894.*

A NEW RAILWAY IN COLOMBIA.

On the 20th instant, the construction of the Cartagena-Magdalena Railroad was formally completed, and the road opened for traffic with appropriate ceremonies. The plan for this railroad was originated by a Boston company me three or four years ago. Capital was invested in the enterprise to the extent of about $2,000,000. Work was actually begun here two years ago, but owing to the natural difficulties of soil and climate, together with the necessity of importing all labor and machinery from the United States, progress on the road was slow as compared with similar enterprises in more advantageous countries. Considering the grave obstacles with which railway engineering has to contend in this country, the result in this case furnishes a most gratifying instance of American skill and energy, and at the end of their construction labors, the company has justly become the recipient of much flattering commendation at the hands of those Colombians who are looking forward to an era of increasing prosperity for their country.

The completed road is somewhat over 60 miles in length. It runs from Cartagena, in a southerly direction, to Calamar, the nearest town on the Magdalena River. It is a narrow-gauge road, stone ballasted, and without any heavy grades.

Now that this road is permanently established, the merchants of Cartagena are confidently predicting a return of the abundant traffic that was formerly conveyed through this port. Years ago, owing largely to the natural advantage of an unexcelled harbor, Cartagena knew no rival on this coast as a trading city. In those days, transportation from the Magdalena River was effected by means of a canal, but for some reason, trade languished, and the canal fell into disuse and became unnavigable. Barranquilla was built and Cartagena's commercial supremacy disappeared. For years, no effort was made to reëstablish what naturally belonged to this city, and it remained for some enterprising Americans to discover the brilliant advantages that belonged to Cartagena as a seaport, and to give those advantages their practical value by means of the railway that has just been completed.

Of course, at the present stage of its existence, any statement of the value of this road to the city must be purely conjectural; but, taking into consideration the excellence of the road and the facilities it affords for quick transportation of freight from the main artery of commerce (the Magdalena River) to one of the best harbors on the South American coast, there seems to be no reason to doubt that it will fully realize the degree of usefulness predicted for it by its promoters, and become a most important factor in the development of Colombian resources and industry. Already, large exporters in the interior are announcing their intention to ship their goods through this port hereafter instead of through Barranquilla. This may be a temporary detriment to the latter city, but, on the other hand, it is believed that the operation of the railway will act as a stimulus to the latent capabilities of the country in every direction, and that Barranquilla will be benefited as well as Cartagena.

CLIFFORD SMYTH,
Consul.

CARTAGENA, *July 26, 1894.*

No. 170——9.

PROPOSED RAILROAD IN VENEZUELA.

Consul Plumacher, of Maracaibo, under date of October 3, transmits to the Department a copy and translation of a contract entered into by the Government of Venezuela for the construction of a railroad from Puerto Cabello to Carenero. "Should this project be carried out," says the consul, "the coast towns will receive incalculable benefit, and the railway will be one of the most important in Venezuela. The contract was made by the Minister of Public Works and the Soller Navigation Company, of Barcelona, Spain, represented by Juan Baptista Soles Ferre. The Soller Navigation Company obligates itself to build, within four years from April 2, 1894, a railroad which, starting from Puerto Cabello and passing through La Guayra and the coast towns, shall terminate at Carenero. The line may be constructed according to the "single-rail system, with great velocity," or in the ordinary manner, according to the judgment of the contractors. In the latter case, the width of the line will be 1 meter, 7 centimeters (3 feet 6 inches) between the rails. Branch lines will be constructed to neighboring towns or localities, as public interests require. The builders of the road are to own it "perpetually and irrevocably," and no similar concession in the territory to be traversed shall be made for ninety years. Timber used for the road may be cut in the public forests. Construction machinery and tools are to be exempt from import duties. The company is to have no government subvention or guaranty, and must pay annually to the public treasury "5 per cent of the liquid product of the line." Freight and passenger rates will be fixed by agreement with the Government. The work of construction must begin within ten months from August 22, 1894. The public lands needed for the road are given free, but compensation must be made for rights of way through private property.

NOTES.

Hongkong Currency.—Vice-Consul Hunt writes from Hongkong, August 1:

The Chinese currency system is based upon a certain weight of silver, and not upon the number of a standard coin. Thus, although the currency consists of "chopped" Mexican dollars, *i. e.*, Mexican dollars defaced by the mark of, say, a blunt nail, yet $1,000 Hongkong currency does not consist of one thousand of these defaced dollars, but of 717 taels' weight of them. If the coins are new, 1,000 by count weigh about 72½ taels; thus 717 taels weight would consist of only about 995 pieces. The tael equals 579.84 English troy grains. Anyone presenting a check or note for $10,000 at a bank, and wishing to receive coin, would have weighed out to him 7,170 taels weight of chopped dollars, and would receive, more or less, 9,950 pieces. This system is not so inconvenient as it seems. Banking, both Chinese and European, is well developed in Hongkong; payments are nearly always made by check or by notes of the chartered Hongkong and Shanghai banks, the aggregate circulation of their notes being about $6,000,000, with a plentiful supply of subsidiary coinage—50, 20, 10, and 5 cent pieces, which pass by count. Consequently, Europeans, in their small private transactions, by means of notes, checks, and small change, manage to avoid altogether the weight system; in fact, many do not realize it, but in large business transactions, such as balances between banks, or shipments of coin to other places to pay for produce, the coin is always weighed out, and every 717 taels' weight counts for $1,000 Hongkong currency.

Chefoo and Haikwan Taels.—Under date of September 10, Consul Reid, of Tien-Tsin, reports to the Department that the value of the haikwan (customs) tael in Chefoo currency is fixed at $1.044, at which rate all duties on foreign exports and imports are paid. The Chefoo tael is therefore equal to 95.785 cents of the haikwan tael. In a report dated August 8, the consul gives the value of the Tien-Tsin tael as 95.23 cents of the haikwan tael.

Currency in Madagascar.—Acting Consul Wetter, of Tamatave, writes, under date of September 7:

Madagascar has no standard coin currency of its own issue, but merely a nominal currency, whereof the unit is the dollar (ariary or farantsa), which is equal in weight to the old Spanish dollar, and which is subdivided into the following subdivisions of a dollar: One-half (loso), one-quarter (kirobo), one-eighth (sikajy), one-twelfth (voamena), one forty-eighth (flavomena), one seventy-second (ernambatry), one ninety-sixth (varifitoven), one one hundred and forty-fourth (varidimiventy), one seven hundred and twentieth (variraiventy). These subdivisions are obtained by cutting the 5-franc piece of the Latin Union into bits, and signify, in reality, a proportionate weight of such cut silver.

At Tamatave, and among all foreigners in Madagascar—indeed, all over the island—the 5-franc piece of the Latin Union—known among English-speaking people as the dollar and among French people as the piastre—passes current for a dollar (ariary or farantsa), and when dollars are mentioned, commercially or otherwise, this is the coin meant.

Until March 27, 1894, the Mexican dollar, cut and whole, circulated, practically, on a par with the Latin 5-franc piece, but since that time it is, by law, no longer currency, in either condition, and things have come to such a pass that the smaller shopkeepers, traders, and mechanics, native and foreign, are reluctant to accept any 5-franc piece, or dollar, except those of French mintage, although by law all of them are good money.

The Brazilian Milreis.—Under date of October 1, 1894, Minister Thompson, of Rio de Janeiro, reports as follows to the Department:

> The Brazilian milreis has been estimated in my accounts during the past year at 25 cents. This was considered necessary at the time on account of the very low rate of exchange; but since the revolution has been suppressed the rate of exchange has risen to a point where, to continue the practice mentioned, would entail personal loss. I will, therefore, estimate the value of the milreis hereafter as directed (at the Treasury valuation, 54.6 cents.)

Cotton-Seed Oil Mills in Europe.—In CONSULAR REPORTS No. 169 (October, 1894), was printed a series of replies from consuls (pages 176 to 183 inclusive) to instructions asking for data concerning cotton-seed mills in Europe. Among other statements, there was one to the effect that no information could be obtained of any connection between the American Cotton-Seed Oil Company of the United States and the cotton-seed mills in the consular districts of Hull, Bristol, London, and Liverpool, England. The consul at Marseilles, France, stated that one large cotton-seed oil mill in that city was supposed to operate in harmony with American mills, but, whether or not there was a relation between it and any particular American company which enabled the latter to control or influence its output, he had no means of ascertaining. Consul-General Mason, writing from Frankfort, Germany, also indicated his inability to determine whether any such understanding existed, although, he stated, it might be inferred from certain circumstances set forth in his report.

With reference to these statements, the Department is informed by Mr. George C. Gorham, attorney in Washington for the American Cotton Oil Company, upon the authority of Mr. Edward D. Adams, chairman of that company, that it "has no interest whatever in any foreign cotton-seed oil mills, or in any manufacturing company abroad, other than its own organization at Rotterdam, which has been fully stated in public print and annual report for two years past, as well as in consular reports from Rotterdam to the State Department."

New Process for Extracting Ramie Fiber.—Consul-General Pratt writes from Singapore, September 7:

> I have the honor to report that my attention has recently been called to a new and economical process for the extraction of the fiber of the ramie plant by simple chemical means and heat. Desirous of satisfying me as to the efficacy of the above, the inventor took a

quantity of the plants, stripped off the bark in my presence, and after about forty minutes boiling in his mixture produced a mass of fiber which seemed entirely free from gum or other deleterious ingredients, and which, after having been simply washed in cold water, dried a few hours in the sun, and then pulled out with the fingers, appeared in proper shape for spinning, as may be judged by the inclosed sample, which I beg you will kindly have submitted to the Secretary of Agriculture for his opinion,* which the inventor and his associates wish especially to have, with his views as to the extent of territory in the United States over which the ramie plant can be successfully cultivated, in order to decide as to the advisability of the introduction of their process. If, as I am inclined to think, the ramie will thrive in our Atlantic and Gulf States of the South, in Southern California, and in New Mexico, our agriculturists would greatly benefit by producing the plant, were a cheap and easy means afforded for the extraction of its very valuable fiber.

Failure of the Belgian Potato Crop.—Under date of September 28, Vice-Commercial Agent Murphy, of Luxemburg, writes:

According to a report received from the Belgian province of Luxemburg, that country is menaced with a veritable potato famine. From all sides, word is being received to the effect that an epidemic is destroying the tubers. The effects of this calamity are already apparent in the Brussels market. Within less than one month, prices have risen there more than 50 per cent, and, it is thought, the upward movement will continue. As potatoes are one of the principal food materials of the European poor, even a partial failure of this crop must result in much misery and suffering next winter.

Enlarging English Trade in Japan.—Under date of August 13, Consul-General McIvor, of Kanagawa, reports as follows:

I have several times been requested by American manufacturers to let them know how English manufacturers introduce their wares to the Japanese trade. For the information of such manufacturers, I herewith forward to the Department a catalogue of a Sheffield company, which very well illustrates the manner of calling the wares of English manufacturers to the attention of the Japanese trade.

The catalogue referred to, profusely illustrated, is printed in the Japanese language.

Grain Crops of Italy.—Consul-General Jones, of Rome, under date of September 29, furnishes the following comparative table of the wheat, oats, and barley crops of Italy for the years 1893 and 1894, based on telegraphic reports received by the Minister of Agriculture of Italy:

Year.	Wheat.	Oats.	Barley.
	Bushels.	*Bushels.*	*Bushels.*
1893	135,018,066	18,272,450	7,911,528
1894	122,777,961	15,799,222	8,036,954

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*Sample transmitted to the Secretary of Agriculture and by him referred to the Division of Fiber Investigation for examination.

Tin-plate Exports of Great Britain.—Consul Howells, of Cardiff, sends to the Department the following figures of tin-plate exports from Great Britain for the month of September, 1893 and 1894, and for the nine months ending September 30, 1893 and 1894:

Exported to—	Month of September—		Nine months ending September 30—	
	1893.	1894.	1893.	1894.
Argentine Republic	$16,651	$8,452	$146,690	$128,881
Australasia	50,446	39,838	325,438	523,484
British East Indies	27,590	54,670	286,254	319,638
British North America	58,810	100,201	678,583	669,372
Brazil	21,702	31,414	254,331	198,090
France	151,177	64,235	573,173	484,989
Germany	14,684	22,432	156,534	192,937
Holland	35,128	24,612	259,830	241,407
Italy	27,011	15,809	183,380	136,448
Portugal	43,278	7,513	314,932	118,915
Roumania	23,050	9,809	264,798	303,369
Russia	99,926	100,488	1,329,425	776,063
United States	873,277	1,062,344	13,569,255	8,990,246
All other countries	158,355	105,743	1,027,118	1.457,443
Total	1,601,085	1,647,920	19,369,741	14,541,282

Venezuelan Tariff on Shirts of Knitted Cotton.—Under date of August 25, Consul Plumacher, of Maracaibo, reports the publication of a federal decree which directs that shirts of knitted cotton (stocking knit) imported through the custom-houses of Venezuela shall be scheduled in the sixth class (50 cents per kilogram=2.2046 pounds), with an augmentation of 50 per cent upon the amount of the duties thus levied.

Shipbuilding in London.—In reply to the Department circular of May 7, 1894, relative to the wages paid in ocean steamship building in England, Consul-General Collins, under date of October 6, 1894, states that the building of ocean steamers has ceased to be an industry in the consular district of London.

Census of Mexico.—Under date of October 4, Minister Gray transmits a copy of a federal decree, published in the Diario Oficial of September 29, ordering a general census of inhabitants to be taken throughout the Mexican Republic on October 20, 1895.

Flour at Gibraltar.—According to statistics transmitted by Consul Sprague, under date of October 13, the quantities of flour imported at Gibraltar from July 1 to October 3, 1894, were: From New York 10,581 sacks, equal to 2,962,680 pounds; from Great Britain 2,318 sacks (for garrison supply), and from France 363 sacks; total imports, 13,260 sacks of 280 pounds each, or 3,712,800 pounds.

Swine Plague in Germany.—Under date of August 23, Commercial Agent Smith, of Mayence, reports as follows:

On June 27, I reported to the Department the breaking out of a plague among swine in Germany. The information was obtained verbally from the official here having the matter in charge, and when I came to seek further intelligence, the official was absent on leave. I then wrote to the Government at Darmstadt for what I wanted, and have been a month in getting information which I would have secured in a few minutes conversation. The matter, however, has little special interest for the United States, as no swine are imported thereinto from Germany.

I am now informed that since its grave outbreak in June, in this locality, the disease has been confined, by the energetic methods at once adopted to keep it in check, to the herds in which it first broke out. The pest was introduced into Hesse by hog-dealers from the adjoining Bavarian palatinate, and at once got a serious hold among the swine of parts of Hesse, but is now happily on the decline, according to the reports coming in from the various districts where it has appeared. Further introduction of the disease into Hesse is provided against by subjecting all swine entering the Duchy to a quarantine of twelve days. What the state of the disease is in other parts of Germany, I am unable to say.

Copies of both of Commercial Agent Smith's reports have been sent to the Agricultural Department.

Municipal Control of Street Railways in Glasgow.—Consul Morse, of Glasgow, writes under date of October 10:

The purchase and operation by the municipality of Glasgow of the street-car system of that city, on or about the 1st of July, 1894, has resulted in better cars, cheaper fares, and more efficient service to the public. The street cars have so far been operated at a small profit to the city over and above running expenses and interest on the outlay of capital in the purchase. The cars are operated by horse power, as of old.

A new line of railway has been opened and is now in operation from Helensburg to Fort William, and is known as the West Highland Railway. It is leased and operated by the North British Railway Company, and freight and passenger trains run regularly from Helensburg to Glasgow and Fort William and return.

Declared Exports.—Statements showing the exports declared for the United States at the several consulates and agencies, in the principal foreign countries, during the quarter ending September 30, 1894, will be printed in the December CONSULAR REPORTS, No. 171, after the manner of those printed in No. 168 (September), for the quarter ending June 30. The statements on hand, at this writing, cover the various consulates and agencies in Austria-Hungary, Belgium, Canada (with the exception of British Columbia and Manitoba), Cuba, Danish West Indies, Denmark, Germany (southern

Germany, that is, Frankfort-on-the-Main and the consulates thereunder), Greece, Italy, Mexico (Nuevo Laredo and consulates thereunder), Netherlands, New Zealand, Russia, Sweden and Norway, and Switzerland. It is expected that statements from France, Berlin, and consulates thereunder, the United Kingdom, etc., will be received in time to be printed with the statements already on hand.

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of October to other Departments for publication, or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Allen B. Morse, Glasgow	Sept. 13, 1894	Agriculture	Department of Agriculture.
James H. Smith, Mayence	Aug. 23, 1894	Swine pest in Germany	Do.
E. Schneegans, Saigon	Aug. 11, 1894	Rice market	Do.
Do	Aug. 25, 1894	do	Do.
Geo. H. Murphy, Luxemburg	Sept. 28, 1894	Belgian potato crop	Do.
Do	do	Cattle statistics	Do.
E. Spencer Pratt, Singapore	Sept. 7, 1894	Ramie fiber	Do.
Sheridan P. Read, Tien-Tsin	Sept. 10, 1894	Chefoo and haikwan tael	Director of the Mint.
Edward Telfair Wetter, Tamatave.	Sept. 7, 1894	Currency valuations in Madagascar.	Do.

Reduction of Export Duties on Coffee in Salvador.—Under date of October 3, Vice-Consul Dawson, of San Salvador, informs the Department that the exportation duties on coffee have been reduced by an executive decree dated the 17th of September. According to this decree, coffee exported from Salvador shall pay a tax of 2 per cent (gold) ad valorem, per quintal, the same as any other article exported, and to this effect the decree declares that coffee is to be valued at 25 silver pesos (about $13 gold) per quintal. This reduces the former tax of $2.25 (gold) to less than 30 cents per quintal.

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CONSULAR REPORTS.

DECEMBER, 1894.

COMMERCE, MANUFACTURES, ETC.

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DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1894.

PUBLICATIONS OF THE BUREAU OF STATISTICS

In addition to the monthly CONSULAR REPORTS, the following works have been published by the Bureau of Statistics:

"Labor in Europe," 1878, one volume; "Labor in Foreign Countries," 1884, three volumes; "Commerce of the World and the Share of the United States Therein," 1879; "Commerce of the World and the Share of the United States Therein," 1880–'81; "Declared Exports for the United States, First and Second Quarters, 1883;" "Declared Exports for the United States, Third and Fourth Quarters, 1883." "Cholera in Europe in 1884," 1885; "Trade Guilds of Europe," 1885; "The Licorice Plant," 1885; "Forestry in Europe," 1887; "Emigration and Immigration," 1885–'86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); "Rice Pounding in Europe," 1887; "Sugar of Milk," 1887; "Wool Scouring in Belgium," 1887; "Cattle and Dairy Farming in Foreign Countries," 1888 (issued first in one volume, afterwards in two volumes); "Technical Education in Europe," 1888; "Tariffs of Central America and the British West Indies," 1890.

The editions of all these publications except the one last mentioned are exhausted.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that at length in 1890 the Department decided to publish such reports in separate form to be entitled "Special Consular Reports." There are now the following "Special Consular Reports:"

Vol. 1 (1890).—"Cotton Textiles in Foreign Countries," "Files in Spanish America," "Carpet Manufacture in Foreign Countries," "Malt and Beer in Spanish America," and "Fruit Culture in Foreign Countries."

Vol. 2 (1891).—"Refrigerators and Food Preservation in Foreign Countries," "European Emigration," "Olive Culture in the Alpes Maritimes," and "Beet Sugar Industry and Flax Cultivation in Foreign Countries."

Vol. 3 (1891).—"Streets and Highways in Foreign Countries."

Vol. 4 (1892).—"Port Regulations in Foreign Countries."

Vol. 5 (1892).—"Canals and Irrigation in Foreign Countries."

Vol. 6 (1892).—"Coal and Coal Consumption in Spanish America," "Gas in Foreign Countries," and "India Rubber."

Vol. 7 (1892).—"The Stave Trade in Foreign Countries" and "Tariffs of Foreign Countries."

Vol. 8 (1892).—"Fire and Building Regulations in Foreign Countries."

Vol. 9 (1892 and 1893).—"Australian Sheep and Wool," and "Vagrancy and Public Charities in Foreign Countries."

Vol. 10 (1894).—"Lead and Zinc Mining in Foreign Countries" and "Extension of Markets for American Flour."

Vol. 11 (1894).—"American Lumber in Foreign Markets."

Of these Special Reports "Cotton Textiles in Foreign Countries," "Files in Spanish America," "Malt and Beer in Spanish America," "Canals and Irrigation," and "Fire and Building Regulations" are exhausted.

The Bureau of Statistics of the Department of State will be grateful for the return of any monthly or special numbers of Consular Reports.

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Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1894, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.2 cents in April, 1894, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz: (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*	Gold and silver	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
Chile‡	Gold and silver	Peso	.91,2	Gold—escudo ($1.82,4), doubloon ($4.56,1), and condor ($9.12,8); silver—peso and divisions.
Cuba	do	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands§	Gold and silver	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Portugal	Gold	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

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* In 1874 and 1875 the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ending July 1, 1892. The next quarter (October 1) inaugurated the gold standard (*see* note under table of "fluctuating currencies").

‡ The gold standard prevailed in Chile until January 1, 1890. The value of the peso has been the same under both standards.

§ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–'90.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1880; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and silver	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34.5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.93,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.33,2	.32,3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

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* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (*see* CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies, 1891–'94.*

Countries.	Monetary unit.	1891.				1892.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Austria-Hungary *	Gold crown	....	....	....	....	....	....	....	$0.20,3
	Silver florin	$0.38,1	$0.36,3	$0.36,3	$0.35,7	$0.34,1	$0.32,8	$0.32	....
Bolivia	Silver boliviano	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Central America	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
China†	Shanghai tael	1.13,9	1.08,5	1.08,7	1.06,8	1.02,1	.98,2	.95,8	.91
	Haikwan tael	1.27	1.20,9	1.21	1.18,9	1.13,7	1.09,3	1.06,7	1.01,3
Colombia	Silver peso	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Ecuador	do	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
India	Silver rupee	.36,6	.34,9	.35	.34,3	.32,8	.31,6	.30,8	.29,3
Japan‡	Silver yen	.83,1	.79,2	.79,3	.77,9	.74,5	.71,6	.69,9	.66,4
Mexico	Silver dollar	.83,7	.80	.80	.78,5	.75	.72,2	.70,4	.66,9
Peru	Silver sol	.77,1	.73,5	.73,6	.72,3	.69,1	.66,5	.64,9	.61,6
Russia§	Silver ruble	.61,7	.58,8	.58,8	.57,8	.55,3	.53,1	.51,9	.49,2
Tripoli	Silver mahbub	.69,5	.66,3	.66,4	.65,2	.62,3	.60	.58,5	.55,5
Venezuela ‖	Silver bolivar	.15,4	.14,7	.14,7	.14,5	.13,8	.13,3	.13	.12,3

Countries.	Monetary unit.	1893.				1894.		
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	Oct. 1.
Bolivia	Silver boliviano	$0.61,3	$0.61	$0.60,4	$0.53,1	$0.51,6	$0.46,5	$0.46,4
Central America	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
China†	Shanghai tael	.90,6	.90,1	.89,2	.78,4	.76,2	.68,6	.68,5
	Haikwan tael	1.01	1.00,4	.99,4	.87,4	.84,9	.76,5	.76,3
	Tien-Tsin tael	....	....	....	....	....	....	.72,7
	Chefoo tael	....	....	....	....	....	....	.71,7
Colombia	Silver peso	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
Ecuador	do	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
India	Silver rupee	.29,2	.29	.28,7	.25,2	.24,5	.22,1	.22
Japan‡	Silver yen	.66,1	.65,8	.65,1	.57,3	.55,6	.50,1	.50
Mexico	Silver dollar	.66,6	.66,2	.65,6	.57,7	.56	.50,5	.50,4
Peru	Silver sol	.61,3	.61	.60,4	.53,1	.51,6	.46,5	.46,4
Russia§	Silver ruble	.49,1	.48,8	.48,3	.42,5	.41,3	.37,2	.37,1
Tripoli	Silver mahbub	.55,3	.55	.54,5	.47,9	.46,5	.41,9	.41,8

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* Austria-Hungary had the silver standard up to August, 1892 (*see* note to "fluctuating" table B).

† China (silver). The Haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or Haikwan, tael, in which all duties have to be paid, and the other the market tael, the former exceeding the latter by some 11 per cent."

‡ Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

§ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

‖ The Venezuelan bolivar became fixed in value (19.3 cents) on January 1, 1892.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalent.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovet	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bonw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (Cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lb; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264 17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3 5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅞ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castilian	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (*see* cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalent.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measure.

Millimeter ($\frac{1}{1000}$ liter) equals 0.27 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6417 gallons.
Hectoliter (100 liters) equals 26.417 gallons.
Kiloliter (100 liters) equals 264.17 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

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LABOR AND LABOR INSURANCE IN EUROPE.

LABORERS' INSURANCE CONGRESS.*

At the international congress held at Milan last week, over 500 delegates assembled. Almost all the nationalities were represented, Italy and France, however, predominating. Germany, Austria, and Russia came next. Switzerland was represented by Messrs. Benziger and Dinichert, of the national council; Durrer, of the Swiss statistical bureau; Greulich, Swiss Secretary of Labor; Dr. Kaufmann, of Zurich; Dr. Micheli, of Geneva; and Dr. Moser, mathematician of the Swiss industrial department.

At the first meeting, Germany's prominent representative, Dr. Boediker, who is president of the German federal insurance bureau, began by calling the attention of the assembly to the importance of the grand work done by the laborers' insurance bureau in Germany, which should be also of great interest to the other countries represented. If the several governments wish to stop the extension and generation of pernicious doctrines, they should extract the good points therefrom and secure a victory, and at the same time fight what is dangerous in these doctrines. Germany has adopted this system for the benefit of the laboring classes.

On the first and second days, the congress debated the prevention of accidents, the employment of women and children, and the inspection of factories. The question whether a free or compulsory insurance should be adopted was of the highest interest. This question took up the time of three meetings, and over thirty speakers were heard debating on this point. Three lectures by Prof. Cheysson (France), Prof. Luzzatti (former Italian Finance Minister), and Westerouen van Meeteren (Holland), served as the basis for discussion.

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*Translated by Consul Germain from an article in the Neue Zuercher Zeitung.

The German delegates advocated strenuously the features of compulsory insurance, on a basis established by some governments, but with full liberty to laborers to manage the same themselves. It was again Dr. Boediker whose able speech in favor of compulsory insurance, as it now exists in Germany and Austria, was most effective. His argument, which lasted ten minutes only, but which was sharp and to the point, a master work of oratory, brought about a complete change of opinions, which, at the beginning, were unfavorable to the German compulsory insurance, especially so on account of speeches made by Italian and English socialists in favor of free insurance.

As here in Switzerland the idea of compulsory insurance is severely fought by private insurance companies, we give textually the speech of Dr. Boediker:

> I have read with the highest interest the reports made by the most prominent representatives of three countries, namely, Messrs. Cheysson, Luzzatti, and van Meeteren, on the best system of organizing accident insurance, and have heard with the same interest the speeches of these gentlemen and other speakers on this subject. I am happy to see that all of them agree that something must be done, and that the present state of things can not be maintained any longer, the former labor laws being obsolete and of no practical value at the present time. It also affords me great pleasure to note the rapid progress of the ideas of compulsory insurance. Mr. van Meeteren himself confesses to have been converted since the Bernese congress, and to have abandoned his former views on the subject. Messrs. Cheysson and Luzzatti are not yet fully converted, but I hope they soon will be. I herewith tender my sincere thanks to Mr. Cheysson for the friendly words addressed to the federal insurance bureau, as well as to myself.
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> Mr. Luzzatti himself says that, with his system, it would be difficult to make the small employers responsible for their men. But the very first thing to do is to establish an organization which will include all laborers. If you organize a so-called "good risks"—the *têtes choisies*—what will you do with the poor ones? What will be the outcome of the agricultural industries and laborers of whom Mr. Luzzati spoke?
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> The German farm laborers sustain about 20,000 accidents annually, and I suppose it is hardly any better in other countries. How will you regulate such an extensive sphere with millions of insured people without a thorough organization established and enforced by the different state governments? You will meet with the greatest difficulties in fixing the expenses, the judicial course, the collecting of contributions, and the securing of reserve funds. Just try to establish in detail the articles of regulations. Many ideas look quite different when expressed by a paragraph of a law than when only existing in men's imaginations. The intellect is very often stronger than the heart. If these gentlemen formulate a law on their basis, they will be compelled to make so many restrictions to their expected liberty that they will not like it very much. It will be better to form a compulsory organization, and allow liberties in the inner management, than to allow free organizations subject to a number of restrictions. In the first case, you have only one compulsion, and then continued liberty, while in the other you are free to begin, and then bound hand and foot thereafter.
>
> Then I must ask how will the insured be affected if he changes his profession, his residence, or his country? What impediments on one side, and what difficulties on the other? All this would have to be provided for by law, for the most important rights of the laborers are at stake. Further, I will only mention the fact that the laborers themselves must have a representation in such organization and in its management. Their own interest is concerned, and it can only have a good effect on the social policy if employers and employés are working together in harmony. How will the honored gentlemen incorporate these features in the

organization? And, further, it appears to me that the combination for the prevention of accidents with a free organization can not be as effective as with a compulsory organization. The enactment of binding regulations for the prevention of accidents; the employment of supervising engineers, who can at any time enter the establishments and enforce the observance of the laws and regulations; the compelling of such employers who do not observe the law to pay fines—all this can only be reached if the organization is made compulsory by law, and not in any other manner.

Lastly, a complete and prompt cure for laborers and a restoration to health, fitting them again quickly to perform labor, is the best possible method, if the organization of this insurance system is made compulsory. In this respect, I would refer to my report, which will be discussed later. The advocacy of liberty looks very well, but laborers derive no benefit therefrom. The question is to cure heavy damages, and to remove the misery of the masses by proper and efficacious means. If this can not be reached without compulsion, why not try it? Compulsion is not so bad as it may look; without compulsion, no family, no community, no state can exist. But you may go ahead and try your doctrine; should you be successful, I will be the first man to applaud your results.

We have already stated what effect this speech has had on the opinions of a number of delegates; the change was greater in fact than at first apparent. It was especially noticed at the banquet held at the Café Cova the same evening in honor of the members of this congress. Mr. Darcy, president of the central committee of French coal mines, in his speech, highly praised the friendship of the four great nations which were here so ably represented.

The German social policy, so ably represented at this congress, proved a great success. Nations, politically enemies, met in friendship upon social ground.

EUGENE GERMAIN,
Consul.

ZURICH, *October 12, 1894.*

GERMANY—COMPULSORY ACCIDENT INSURANCE.*

As it is proposed to bring before the next imperial Diet the question of extending the workmen's accident insurance law so as to include all apprentices and employés occupied in the various trades and businesses whose wages and salaries do not exceed $476 per annum, some information on the practical working of this law thus far in Germany may be interesting to American readers.

As a result of the social legislation in Germany, the cost to the Rhenish and Westphalian smelting works and rolling mills in 1892 was something like $8.90 per capita of workmen employed. Since the inauguration of compulsory insurance in Germany (in the latter part of 1885) up to the end of 1893, German industries have paid in capital and reserve fund about $88,000,000. At the close of the year 1892, the number of persons insured against accidents in operative works was 18,014,280. The total expenditures in 1892 amounted to $12,542,767, distributed as follows: For indemnification, $7,696,968; for examinations of accidents, $246,354; for courts of arbitration, $127,163; for protection againt accidents, $110,527; for general administration, $1,343,962; and laid aside as reserve fund, $3,032,072. The capital at the end of the year 1892 amounted to $20,455,791. It will be seen that the cost of administration amounts to about 11 per cent of the total expenditures.

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*See report of Commissioner of Labor ("Compulsory Insurance in Germany") and CONSULAR REPORTS No. 166 (July, 1894), p. 391 ("Workmen's Insurance in Germany").

WM. D. WAMER,
Consul.

COLOGNE, *September 2, 1894.*

GERMANY—EFFECT OF THE SOCIAL LAWS.

The director of the statistical bureau of Saxony—Geheimrath Boehmert—who was formerly professor of national economy at Zurich, has published an elaborate article on the pauper statistics of Saxony, and in particular on the effects of the new social laws of Germany on pauperism, of which the following are abstracts.

The new social laws cover the insurance law for the sick, the accident insurance law, and the invalid and old-age insurance law. In the above-mentioned article, Mr. Boehmert does not refer to the effects of the "protection to workingmen," which is also to a certain degree helping to diminish the number of paupers; he only states to what extent the "insurance of workingmen" affected public charity in 1890, and what, in the future, is to be expected from the same cause.

The law providing for insurance against sickness was enacted on December 1, 1884, the accident insurance law on October 1, 1885, and the invalid and old-age insurance law on January 1, 1891. It follows that the first two laws only could affect public charity to December, 1890, and it was to be expected that the effects of the first law would be felt in comparing the number of paupers in 1880 and those of 1885 and 1890, while the influence of the accident-insurance law would be apparent by comparing therewith the number of paupers in 1885 and 1890.

Regarding the relief in case of sickness, we find that the following number of paupers were relieved during short periods of sickness in Saxony:

Year.	Single persons.	Paupers with families.*
1880	10,941	15,160
1885	8,426	11,583
1890	6,464	8,856

* All members included.

This shows that the number of unmarried poor decreased from 1880 to 1885 by 2,515, or 23 per cent; from 1885 to 1890 by 1,962, or 23.3 per cent, and from 1880 to 1890 by 4,477, or 40.9 per cent. The number of poor with families to support decreased from 1880 to 1885 by 3,577, or 23.6 per cent; from 1885 to 1890 by 2,727, or 23.5 per cent, and from 1880 to 1890 by 6,304, or 41.6 per cent.

It will be seen that the number of persons assisted during short periods of sickness has considerably decreased since the enactment of these laws. On the other hand, the number of persons assisted for continued infirmity has increased from December 1, 1884. At the different periods there were:

Year.	Single persons.	Members of families.
1880	5,742	9,910
1885	6,315	10,029
1890	6,319	10,103

It is easy to explain this increase. The respective societies grant assistance to the sick and gratuitous attendance by physicians only for a period of thirteen weeks. Persons assisted continuously on account of sickness are such as can not be cured within thirteen weeks or within a short time. The latter are the first who are expected to receive assistance later as incurables, provided, of course, that the rules of the invalid insurance apply to them.

The tables below show the influence of the accident insurance on the number of people assisted by public charity.

The following shows the number of persons assisted for long periods:

Year.	Single persons.	Members of families.
1880	652	1,640
1885	676	1,685
1890	399	981

The following shows the number of people assisted for a short period in consequence of accidents:

Year.	Single persons.	Members of families.
1880	427	803
1885	466	735
1890	218	397

The number of persons assisted decreased from 1885 to 1890 as follows: Single persons, 248, or 53.2 per cent; family members, 338, or 46 per cent. The insurance for invalids and against old age will probably have a still greater influence on public charity than the above-cited two laws. Assistance for old age, which amounted to 20.48 per cent of all outlays, will, owing to this insurance, for the greater part disappear.

Annual investigations made in Saxony, beginning with 1890, regarding the number of beggars prosecuted and punished show the following figures:

Year.	Number.	Year.	Number.
1880	14,066	1888	8,458
1882	11,727	1890	8,815
1884	10,717	1892	12,174
1886	10,780		

From these figures, the year 1880, in which the financial depression reached its lowest point since the year 1875, shows the largest number of beggars punished by law. The number of tramps decreased with the economical improvement and the establishment of workingmen's colonies, where the laborers were provided with labor and food. The year 1888 being the best year since 1881, shows the lowest number of tramps ever known. After that year, the number again increased slowly.

Regarding the total number of assisted paupers, as compared with the population, there were 315 paupers in 1880 to 10,000 inhabitants; 278 in 1885, and 231 in 1890. The most frequent causes are sickness, old age, too great a number of children, lack of labor, or low wages.

It is remarkable that cases of relief resulting from drunkenness have materially decreased. Drunkenness was the sole cause of poverty in 2,857 cases in 1885, but only in 1,486 cases in 1890, and drunkenness, combined with other evils, was the cause of poverty in 1,271 cases in 1885, and in 1,240 cases in 1890. The number of persons needing assistance attributable to drunkenness, rated 13 to 10,000 inhabitants in 1885, and 8 to 10,000 in 1890. This shows that temperance reform has made good progress.

A heavy increase is shown in the number of people in need of assistance in consequence of worthless heads of families abandoning those depending upon them. Their number increased from 895 in 1880 to 3,430 in 1885. The latest statistics show that there are still many forgetting their duties, the number of such being 2,749 in 1890. The number of children who had to be taken away from their drunken parents and given to the care of the police on account of want of care, etc., has increased from 1,324 in 1885 to 1,533 in 1890. This increase is partly due to the searching care and vigilance of the almoners appointed for this purpose.

In general, these figures show a marked improvement in the kingdom of Saxony, which, for the greater part, is due to the beneficial influence of the new German social laws.

EUGENE GERMAIN,
Consul.

ZURICH, *September 6, 1894.*

GERMANY—THE LABOR EXCHANGES.*

The greater part of the labor exchanges in Germany have been conducted for a long time past for the benefit of unskilled labor only. There is some talk to-day of enlarging the usefulness of these institutions. It is proposed to bring them under the control of the central Government, and to organize certain measures which will permit every class of workers to obtain benefit from these institutions.

There is much room for reform, though progress has been made since 1840, when the first of these bureaus was established at Dresden for the purpose of "obtaining work for those who had none and wanted it." That institution exists to-day. It originated from the efforts of a judge and certain economists interested in social questions. Its beginning was modest and its scope limited, the latter being restricted to finding temporary occupations for women in need of work. Statistics of the society show that from 1840 to 1892 (fifty-two years), employment was found for 244,300 persons. This was certainly an excellent showing, but left much to be wished for.

Similar institutions were started in Saxony—the Anti-Poverty Society, which had the assistance of the Chamber of Commerce and the Merchants' Corporation, and the Association for the Prosperity of the People. These institutions limited their activity to acting as intermediaries for employers and employés, requiring from each a small compensation for their services.

In other parts of Germany, more rapid progress was made. At Stuttgart, the Bureau of Public Utility conceived as its most important role the finding of work for male employés. At Berlin, the Central Association for Finding Employment was started in 1883, and, from its commencement, rendered important services. At about the same time, many similar organizations were initiated throughout the Empire. In Dortmund, Siegen, Erfurt, Mannheim, Darmstadt, Schönau, Dusseldorf, Karlsruhe, Freiburg, Hanover, Pforzheim, Lörrach, Schopfheim, and Zell, establishments were started. These, for the most part, confined their assistance to unskilled labor, though there were exceptions which extended it to craftsmen. They required small fees, which were almost insignificant, from both employers and employés. These fees were so small that, by their means alone, they would not have been able to support the work had they not been supplemented by not only private assistance, but by the aid of the municipalities as well. Berlin voted 3,000 marks annually to the Central Association. Dresden gave 1,200 marks per year to the association in that city and 4,000 marks to the Anti-Poverty Society. The Saxon capital, however, required this society to succor the poor, to pay the expenses of 22 apprentices, and to maintain an information bureau—accessory functions which curtailed the true function of the society, that of finding work for the unemployed.

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*Compiled from a report of the French consul-general at Leipsic.

Karlsruhe contributed 600 marks toward the installation of the institution founded in that city; at Freiburg, the municipality gave 900 marks; at Mannheim, the Chamber of Commerce and the common council voted aid to the institution started there. The idea spread and became more and more popular. It was no longer confined to simply finding employment for servants, but was extended into the fields of skilled labor, and the proposition to make these institutions purely municipal was seriously discussed. But on this point, diversity of opinion was encountered, though the proposition had earnest defenders. Recently, it has been decided to create municipal institutions of this character at Freystadt, Bunzlau, Grümberg, Greiffenberg, Heynau, Hirschberg, Hoyerswerda, Lüben, Neusalz, Neustadtel, Polkwitz, Pribus, Esslingen, Sagen, and in the other large cities like Berlin, Frankfort, Posen, Erfurt, Mayence, and Cologne. In addition, the Minister of Commerce and Industry has taken up the subject. In a recent circular, he has requested the presidents of the town councils to report to him as to the advisability of creating these bureaus of labor and placing them under the jurisdiction of the council of *prudhommes*. Thus the question has become a State one, the action of the municipalities having given rise to it.

Naturally, a question such as this has not been neglected by the socialists. They have created independent bureaus of labor, to which they have joined, in some cases, bureaus for the distribution of succor. The socialistic societies are so interwoven that any statistics as to the exact number of bureaus established by them are very difficult to obtain. In certain cities, they have organized societies for helping workmen to find work, but these organizations have no established bureau, their headquarters generally being in some café, where those in search of work generally find those whose business it is to keep informed upon the subject. They generally unite to these functions others for the instruction and assistance of their members. They furnish information as to the conditions governing the working classes; they instruct their members as to their legal rights; they compile statistics, and they place at the disposal of their members technical and other useful information.

On the other hand, the Evangelical party does not seem to have made much progress in its efforts in this direction. The Union of the Evangelical Societies of the Working Classes of Westphalia has decided to establish at Dortmund, and also, perhaps, at Bochum, a central office for the purpose of securing work for the unemployed. This society intends to propose to the Reichstag legislation in respect to maintaining a medium of communication between the working classes by means of the establishment of labor bureaus in every important district of the Empire. The competition of the other societies pushes those of the evangelical order to increase their activity, but the attempts at Berlin of the Society for the Accomplishment of Christian Tasks does not seem to have met with favorable results, a report of the society even admitting as much. They hardly succeeded in placing more than 7 per cent of their applicants for work.

The associations of workers—the Hirsch-Dunckers—are perhaps the most practical of all in this direction. Founded in 1869 by Messrs. Hirsch and Duncker, both economists, and both members on the Liberal side of the Reichstag, these associations numbered 1,341 in 1893, all regulated according to the principles adopted by the general assembly held at Nuremberg in October, 1879. The general rules established by the assembly were clear and precise. Every member of the Hirsch-Duncker Gewerkevereine who had lost his situation, through no fault of his own, had the right to demand the gratuitous assistance of his local secretary. It was the duty of this officer to procure, as soon as possible, employment for the applicant. The local branches did not commence operations generally before an agreement was entered into with the principal contractors and employers of labor. These were consulted, their advice asked, and their desires even were seriously considered. Between the members of these workingmen's associations, a perfect solidarity exists. They report to the secretaries of their local associations the number and character of vacancies which may be known to them in their trade or occupation. These reports or declarations are transmitted to all the other associations, the correspondence being carried on with the greatest dispatch in order that the vacant places may be filled by members of the Hirsch-Dunckers if possible.

Employers of labor in Germany have not been behindhand in establishing associations for recruiting laborers. The Union of Berlin Manufacturers in the year 1892 placed 10,320 persons. The Association of Agricultural Contractors of Schleswig-Holstein procured last year work for 490 farm hands. The Union for the Amelioration of Agricultural Laborers, in the province of Saxony, found occupation for 1,400 hands in 1892. According to their programme, this association has come to the aid, in a certain measure, of the agriculturists who complain without ceasing of the want of reliability on the part of the intelligence officers and other intermediaries for the supply of workmen. Even in military circles, societies have been organized to procure employment for soldiers who have finished their terms of service. By the terms of agreement between the Union of the Military Societies of Baden, and the labor exchange founded at Karlsruhe, the latter undertakes gratuitously to find work for soldiers passing into the reserve. The Military Union at Freiburg has entered into a similar arrangement with the Institute for the Search for Work of that place, the former notifying the latter at proper intervals of the number of men, with a statement of their trades, about to be liberated from military service. The Union of the Military Societies of Saxony has ramifications throughout the Empire, and is organizing a similar system.

The local groups of the General Association of German Women have created numerous bureaus of information and employment. At Berlin, the members of the Society for the Succor of Female Employés have interested themselves in this work, with the result that more than 600 women were supplied with places in 1893.

The celebrated Society for Employés of Commerce of Hamburg, since its foundation in 1858 to the 11th of November, 1893, placed gratuitously 46,000 applicants for work. The Association of the Merchants of Frankfort places every year an average of 2,000 applicants.

Finally, there are what may be called the professionals—that is to say, the intelligence offices. Complaints are made against them from every side. As far back as August 6, 1616, the municipality of Leipsic expressed regret that these people should incite servants to change their places frequently. The central Government, by the law of July 1, 1883, enlarged the control of the police over these officers, but these efforts have not succeeded in bettering affairs much. The waiters in the cafés and the theatrical employés are the ones who suffer most from the rapacity of these people. The Government went so far in 1890 as to order a thorough investigation into the methods of theatrical agents and the means employed by them to secure business.

Perhaps the greatest abuse is practiced on the sailors. A municipal law enacted at Hamburg March 10, 1893, declares that the running of an intelligence office for sailors is misplaced if conducted in one of the sailors' boarding houses or in a saloon.

In 1892, an investigation of the intelligence offices at Stuttgart was made and the results published. There were seventy-four of these establishments in that city, but from only fifty-six were results procured. Twenty-six offices placed each less than 100 persons during the year, eighteen between 100 and 500, seven between 500 and 1,000, four between 1,000 and 2,000, and one succeeded in placing between 5,000 and 6,000. These fifty-six bureaus had, therefore, found places for about 21,000 persons in one year. The applicants were obliged to pay a fee for being entered on the books of the office, which varied from 20 pfennigs to 5 marks, and, in addition, a commission upon the wages of the place obtained, the latter varying from 1 to 25 marks.

To group these scattered forces, to unite them under one administration, either by means of the labor unions, the aid of the municipalities, or even that of the State, is the proposal now being discussed in Germany.

STEPHEN H. ANGELL,
Commercial Agent.

ROUBAIX, *September 26, 1894.*

SWITZERLAND—INSURANCE AND PENSION FUNDS.

Consul Germain, of Zurich, writes to the Department under date of October 10, in reply to an inquiry from Philadelphia, as to whether the insurance of steamboat and railway employés, school teachers, and policemen in Switzerland is compulsory. Mr. Germain says that there are no laws providing for compulsory insurance of such employés, but that they are in some way insured against old age or infirmity. Most of the Swiss railroad companies have pension funds for the purpose of assisting railroad employés who, on account of old age, ill health, or invalidity owing to accidents, are no longer able to earn their living. Although these funds are not compulsory by law, the Federal Government makes them a condition for granting a license to new companies.

There is also a law by which railway and steamboat companies, factory establishments, etc., are liable to indemnify their employés in case of accidents, or their widows and children in case of death, occurring in consequence of an accident. In order to avoid the great risk resulting therefrom, most of the companies, factories, etc., have their employés insured with a private insurance company, but this is not compulsory.

A law was framed a few years ago, according to which all federal employés should be entitled to a pension in case they had to retire from their posts on account of old age, ill health, etc., but this law was rejected by the Swiss people on March 15, 1891.

As regards school teachers and policemen, they are cantonal employés, and as such are entitled to pensions, as follows:

Paragraph 313 and the following parts of the school law of the canton of Zurich say that school teachers who, by their own choice and with the consent of the school board, retire from their profession on account of old age or ill health, after having been active as teachers for at least thirty years, are entitled to a life pension to be paid by the canton, said pension to amount to at least half of their former lawful salary, the exact amount being fixed by the school board of the canton of Zurich in accordance with the number of years the teacher served, his financial standing, the kind of services rendered by him, etc. The cantonal school board has also authority, if not otherwise directed by the Government council, to remove a school teacher from his post for the reasons above stated, and those teachers, if so removed, are equally entitled to such pension. If a teacher retires from his post, or is removed on account of other causes than the above named, he is, nevertheless, entitled to a pension, provided these causes are not brought about by his own fault.

Every man of the cantonal police becoming unfit for service on account of old age or infirmity, and having served at least thirty years, is entitled to a pension, the amount of which is to be so many times 2 per cent of his wages as the number of years served by him in the corps. These pensions are paid out of the invalid fund of the police corps, to which fund the canton contributes yearly 2,500 francs. If the interest derived from this fund is not sufficient to pay the pensions, the cantonal treasury must make up the difference.

General rules.—If an official or employé receiving a pension is otherwise employed and earns a living in excess of the salary he earned before being pensioned, the pension will be reduced. If a pensioner's health improves, allowing him to resume his duties, he shall be allowed to do so. If it is shown by medical certificate that he is able to work for a certain time, the school board is authorized to summon him for temporary services. All decisions of the school board are subject to the approval of the cantonal government council.

SWITZERLAND—THE LAW REGULATING FACTORIES.

I beg leave to submit herewith a translation of the Swiss federal law relating to the regulation of labor in factories, and in force in Switzerland since its enactment, March 23, 1887.

EUGENE GERMAIN,
Consul.

ZURICH, *July 28, 1894.*

I.—GENERAL RULES.

ARTICLE 1. Every industrial establishment, occupying regularly and at the same time a certain number of persons, outside of their homes and in closed apartments, is to be regarded as a factory, to which this law shall apply. Should any doubt exist as to whether an industrial establishment ought to be classed a factory, the final decision shall remain with the federal council, after the report of an investigation, made by the authorities of the canton in which said establishment is situated, has been handed in.

ART. 2. The working rooms, machinery, and tools of each factory are to be of such character as to insure, as much as possible, the health and life of the workers. Well-lighted rooms, properly ventilated so as to keep the air free of dust, and so arranged that the fresh air can be renewed as often as the number of workers employed in one room, or the kind of work done therein, make it necessary. Such parts of the machinery and driving belts as are dangerous to human life are to be carefully fenced in by a solid railing. In general, all preventative measures must be applied which experience and circumstances have proven practicable to insure laborers against ill health and accidents.

ART. 3. Anyone wishing to establish a new factory, or make alterations on an old one, must notify his cantonal government, submit his plans, showing what kind of factory he wishes to build, or alterations to make, and prove that the establishment will be so erected as to meet all requirements the law prescribes. The new factory, or the altered one, can only be opened for operation on permission being granted by the Government, which makes proper reservations in granting a license to a factory, the management of which may involve special dangers to the life and health of the workers, as well as to the neighboring population. When in operation, a factory proves injurious to the health and life of its workers or neighbors, the authorities must at once suspend its operation and direct the owners in a given time to make such alterations or improvements that will insure perfect safety to health. In case the manufacturer and cantonal government can not reach an agreement, then the federal council reserves the right of final decision. The federal council issues general instructions and special regulations necessary for the execution of this article. The cantonal laws, however, regulate the erection of buildings, and these laws remain in force as long as they do not conflict with federal enactments.

ART. 4. Manufacturers must immediately notify the local authorities of any accident or death occuring in their factories. These local authorities will make a searching investigation and report results to the cantonal authorities.

ART. 5. The responsibilities of manufacturers will be established by federal laws. In the meantime, the presiding judge will be guided by the following principles: (1) The manufacturer is amenable for any injury or death to a workingman caused by the neglect of his foreman, inspector, or other employés under his control; (2) the manufacturer is also responsible for any accident resulting in bodily harm or death to any workman, even if not caused by the negligence of his employés, unless he can prove that the accident resulted from natural causes over which he had no control. Should, however, the injured or dead workingman have caused the accident in part by his own carelessness, then the presiding judge will reduce the manufacturers' liability accordingly; (3) liabilities, from causes above enumerated, outlaw by limitation after two years, beginning from the day on which the accident occurred; (4) the federal council will designate industries which, by experience, have been shown to be especially dangerous, or breeders of certain diseases—hence subject to and amenable to these laws—and will fix liabilities. Generally, it will remain with the judge to fix the amount of damages, taking the circumstances of the case into due consideration.

ART. 6. Manufacturers must keep a roll of all the men in their employ; a form of such will be prescribed by the federal council.

ART. 7. Manufacturers must issue regulations governing labor, order of business, and terms governing the hiring and discharging of men, as well as establishing a fixed pay day in each factory. If fines for infringement of rules are imposed, such fines must never exceed half a day's pay of the culprit. To promote the interest of the working classes, such fines must be paid into a special fund created to assist workingmen in times of need. Wage reductions made for poor work or spoiled articles are not to be considered "fines." Manufacturers must also see that good morals and decent behavior prevail among men and women in their employ.

ART. 8. The factory regulations, or changes thereof, are subject to the approval of the cantonal government, provided nothing therein contained conflicts with existing laws. Before approval, however, they must be submitted to the workingmen, giving them an opportunity to express their opinion regarding the same. After they are adopted, they become binding on the principals, as well as on their workmen. Any infringements will be punished by a fine, as per article 19. If, after experience, it is shown that the regulations are faulty, the cantonal government, after due examination, will order them to be revised. After the regulations have been adopted and approved by the Government, they must be printed in large type and hung up conspicuously in the several buildings of a factory, and a copy of the same handed to each workingman on entering upon his duties.

ART. 9. If no special agreement exists between employer and employé, a fourteen days' notice of discharge, or to quit work, will suffice; said notice can be given only, however, on a regular established pay day, or on Saturdays. Contract labor must be finished, if no serious difficulties are in the way. Within fourteen days the contract can be dissolved by either one of the parties under the following restrictions:

By the manufacturer, if the workman proves unfit to finish the work, or if said workman has seriously infringed on the factory regulations. The laborer can only quit work on short notice if the manufacturer fails to perform his obligations, or has been guilty of unlawful treatment toward him. The competent judge will decide in case of nonagreement in the canceling or other misunderstanding of a contract.

ART. 10. Manufacturers must pay their men at the factory at least every two weeks, and in legal current money. By special agreement between employer and employé, or by the factory regulations, wages may be paid monthly. On pay day, not more than the last week's wages can remain unpaid. If piecework is done and is unfinished on pay day, the two parties can make a special agreement as to what part is to remain unpaid, pending the completion of the work. No wage deductions for special purposes are allowed, unless agreed upon by both parties.

ART. 11. The regular working time can not exceed eleven hours, and ten hours on Saturdays or on days preceding a holiday, and must fall between the hours of 6 a. m. (5 a. m. in June, July, and August) and 8 p. m. Labor hours are to be regulated by official time, and notice thereof given to the local authorities. In industries which would prove injurious to the health and life of the laborers if eleven hours' time were applied, the federal council will reduce the working hours accordingly, provided it has been demonstrated that eleven hours' work is detrimental. If additional labor hours are needed for a period not to exceed two weeks, notice thereof must be given to the local authorities, but if more time is wanted, application therefor must be made to the cantonal government, which alone can decide. At midday, at least one hou must be allowed for dinner and rest. Good rooms must be provided, at the expense of ther manufacturer, outside of the regular working halls, for those bringing their meals or having them brought, and the manufacturer must also see that such dining rooms are properly heated during the prevalence of cold weather.

ART. 12. The prescriptions of article 11 do not apply to auxiliary work performed outside of the regular factory by males or single women above the age of 18.

ART. 13. Night work, *i. e.*, between the hours of 8 p. m. to 6 or 5 a. m. (see article 11), is allowed only in exceptional cases, and then only with the consent of the workingmen. In each case, except for repairs requiring but one night, the permission of the local authorities must be obtained, and if for more than two weeks permission must be granted by the cantonal government. For such industries which, owing to their nature, require uninterrupted work, night crews will be allowed and provision made for regular night work. Establishments requiring such uninterrupted management must prove the necessity therefor to the federal council. At the same time, the regulations must be produced showing that such night work does not exceed eleven out of twenty-four hours. If circumstances in such institutions change, permits may be withdrawn or changed.

ART. 14. Work on Sundays is strictly prohibited except in cases of urgency and in such factories requiring uninterrupted work, which have obtained special permits for that purpose, as prescribed in article 13, but also in such establishments, each laborer must be granted one holiday every other Sunday. It is within the jurisdiction of the respective cantonal governments to determine as to other holidays on which, as on Sundays, work in factories is prohibited. Such holidays, however, must not exceed eight in any one year. These special declared holidays are binding only on those workingmen whose religious faith harmonizes with such holidays. Workingmen refusing to work on holidays not in accordance with their own faith, shall not be subject to a fine.

II.—WOMAN LABOR IN FACTORIES.

ART. 15. Women shall in no case be employed at night or on Sundays. If they have to provide for their household, they must be allowed one and a half hours' freedom at midday. They are not allowed to work before and after confinement, the period being fixed at eight weeks in the aggregate. Before resuming work, they must prove that at least six weeks have elapsed since their confinement. The federal council will designate those industries in which women in delicate condition are prohibited from working during such periods. Women can not be employed to clean motors while in motion, nor on any machinery dangerous to life.

III.—EMPLOYMENT OF MINORS.

ART. 16. Children under 14 years of age are prohibited from working in factories. Those of the age of 15 and up to 17 can not work over eleven hours a day in all, including therein the time occupied at school, church, and factory, nor must the time necessary at school and church be limited by the work in the factory. No night or Sunday work shall be performed by anyone under 18 years of age. The federal council can, however, in exceptional cases, and to factories which are in uninterrupted operation, as per article 13, grant the privilege of employing boys of the ages of 15 to 18 if proper showing is made that the coöperation of such boys is necessary, and especially if it is shown that it is to the boy's own interest and beneficial to his apprenticeship. In such cases, however, the federal council will reduce the maximum night time of work below eleven hours, provide for a change in shifts, etc., and establish regulations in accordance with circumstances, as the interest and health of the boys may warrant. The federal council will designate factories in which children can under no circumstances be employed. A manufacturer can not plead ignorance before the law as to the age or school-attending obligations of his minor workmen.

EXECUTION OF THE LAW AND PENALTIES.

ART. 17. The enactment of this law, as well as new regulations made from time to time by the federal council, apply to factories now in existence, as well as to those to be established hereafter, and the execution thereof devolves upon the cantonal governments, who will attend to the proper organization in order to effectually enforce this law. The cantonal governments shall keep the federal council duly advised of all the factories in operation, as well as of new ones starting, or those going out of business (and their *modus operandi*) in their respective cantons, in so far as such are affected by this law. The federal council prescribes in detail that the cantonal governments make annual reports, showing how the law is executed, its effects, and the experience gained thereby. They shall also give the federal council, or such departments designated by it, any information required in the course of the year.

ART. 18. The federal council retains supervisory power over the execution of this law, appoints federal inspectors (who are permanent officers), and defines the duties and powers of the same. Moreover, the federal council can appoint special inspectors for certain industries or factories as far as found advisable, and request the Federal Assembly to make the necessary appropriation to meet this extra expense.

ART. 19. Failure to comply with this law, or with the written instructions from the competent federal inspector, subjects culprits to fines ranging from 5 francs to 500 francs, to be imposed by the court having jurisdiction, and disobedience to the law subjects parties, in addition, to penalties prescribed by the civil statute. For a second offense, the court may impose, in addition to the fines above named, detention in jail for a period not to exceed three months.

ART. 20. All cantonal laws and regulations in conflict with this law are hereby repealed.

ART. 21. The federal council shall cause this law to be published in accordance with the federal law of June 17, 1874, and designate the date on which this law shall take effect.

FRANCE—DEPRESSION IN THE LABOR MARKET.

From information received from the central labor bureau at Paris, the labor situation throughout France on the 15th of August appeared to be that a large number of workmen and laborers were without employment, only a small proportion of those who had, for some time, been in enforced idleness having resumed their occupations on that date.

From 645 labor unions, with a membership of 129,235, reporting to the central office, it appeared that 14.4 per cent of the laborers were without work. Of these unions, 7 per cent, with a membership of 6 per cent of the total, report the situation as better than last year at the same date; 40 per cent, with a membership of 25 per cent of the total, report the situation as the same, and 53 per cent of the unions, with a membership of 69 per cent of the total, consider it as worse than the corresponding period of last year.

The resumption of work, even in those situations where there has been some improvement, has progressed slowly. In the agricultural districts, 67 per cent of the laborers were without employment, and in the wine districts of Cher and Herault, this percentage was increased to 75 and 80 per cent, respectively, the crisis resulting from the low price of wine affecting those districts disastrously.

On the other hand, only 3 per cent of the miners and quarrymen were without work, though the situation in the north is not considered as good as last year.

In the food trades, 7 per cent of bakers are unoccupied, the complaint being made that too many apprentices are employed; 20 per cent of the cooks are idle, principally in the large cities, and 15 per cent of the butchers are unoccupied.

In the book trades, 14 per cent are estimated to be without occupation, the proportion in Paris being 19 per cent, and in the provinces, 7 per cent. Much complaint is heard in these industries of the competition of women and apprentices.

In the leather and fur trades, 13 per cent of the workers are idle; in the shoe trade, there are 27 per cent idle; and in the glove trade, the proportion is 77 per cent, this large proportion being due to the numerous strikes in the Isère. The crisis in the shoe trade is said to be due to the increased productions of the machines, which augment the output beyond the point of consumption. Complaints are made also of the competition of the prisons and penitentiaries.

In the textile industries, the mechanical spinning and weaving establishments count 12 per cent idle; handloom weavers, 31 per cent; hosiery trade, 24 per cent; dyeing and bleaching establishments, 13 per cent; lace and embroidery trades, 36 per cent; upholstery trade, 15 per cent; tailors, 20 per cent; hatters, 16 per cent. The situation of the hand-loom weavers becomes more precarious every day, as beyond the difficulty of securing work the pay for weaving continues to decline on account of the increased productiveness of the mechanical looms.

It is estimated that 9 per cent of the carpenters are idle, 21 per cent of the coopers, 22 per cent of the cabinetmakers, 4 per cent of the toy-makers, and 27 per cent of those employed in the brush and similar trades. In these trades, the situation is considered worse than last year.

In the metal industries, 8 per cent of the workers in the smelting and refining works are said to be idle; 7 per cent in the iron industries, such as blacksmiths, machinists, etc.; 19 per cent in other metal industries than those of iron, and 27 per cent of the jewelers and clock-makers. The situation remains about the same as last year for the molders, but, generally speaking, it is not as good for the smelters and refiners, with the exception of the Ardennes, Allier, Isère, and Cher districts, where there appears to be an increased activity in these industries.

Four per cent of the sculptors are idle, 9 per cent of the stonecutters, 33 per cent of the masons, 36 per cent of the plumbers and zinc workers, and 18 per cent of the painters. The masons and stonecutters consider the situation worse than last year, though in certain districts, those engaged in house construction consider it somewhat better. At Paris, there is said to be 10 per cent less of unemployed plumbers than for the corresponding period of last year.

In the lime, cement, and plaster industries, 14 per cent are idle; 10½ per cent are idle in the pottery and porcelain works, and 39 per cent in the glass-works. The situation in general for plasterers and lime-burners is considered equivalent to that of last year, and in the crockery and porcelain trades it is also judged to be the same, except in the Limoges district, where it is very bad, 33 per cent of the workers being unemployed. In the glass trades, complaint is heard of the competition of foreign wares.

In the transportation industries, 5 per cent of the cabmen and draymen are idle, and 26 per cent of the porters, loaders, etc.

Of the commercial travelers, 19 per cent are without employment, and 11 per cent of the bookkeepers. The commercial travelers and bookkeepers consider their situation as worse than last year on account of the commercial crisis.

STEPHEN H. ANGELL,
Commercial Agent.

ROUBAIX, *September 20, 1894.*

EMIGRATION OF JAPANESE LABORERS.

An emigration company was established at Hiogo in January, 1892, styled the Meiji Emigration Company, with a capital of 30,000 yen.* This company was required by the Japanese Government to deposit with the governor of this ken 10,000 yen as security, or so much of this sum as was necessary for paying the expenses of returning emigrants. The object of the company, as stated to the authorities, was to send laborers to Victoria to work in the coal mines. This enterprise having been unsuccesful, I am informed that emigrants were shipped to Victoria by the Canadian Pacific line, from whence they were transshipped to the United States.

Another emigration company is now being organized in Hiogo, under the name of the Tokō Goshi Kwaisha, which has received the sanction of the Government, the deposit required being 30,000 yen.

Under new regulations, recently issued by the Imperial Government, these companies are required to make larger deposits than formerly, and to obtain the approval by the Government of their agents in the countries to which the emigrants go.

The form of contract, with translation, between the companies and the emigrant, which has received the sanction of the Japanese Government, is herewith inclosed. By the terms of this contract it will be noticed that the company receives 7 yen for making arrangements for the shipping of each emigrant and for providing an agent in the country to which the emigrant is sent to assist him in finding employment and in returning to his country under certain contingencies. It also appears that the emigrant pays all the expenses incident to his emigration.

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*The silver yen was valued by the United States Treasury Department on October 1, 1894, at 50 cents.

AGREEMENT.

[Translation.]

The emigrant, ———, having made an application to the Japan Meiji Emigration Company, together with his guaranties to make arrangement for his emigration, for the purpose of engaging in lawful labor, and the said company, having complied with his request, make the following agreement:

(1) The company shall make application for passport to the proper authorities for his emigration, and shall take all necessary steps as to his passage. The company shall also cause their agents, in the country of destination, to assist him in getting employment. The expenses for passage shall be borne by the emigrant.

(2) The term of this agreement shall be three years from the date of the agreement.

(3) In case of illness or any other distress of the emigrant in the country of destination, the company shall cause their agent to render proper assistance to him, and to send him back home if necessary.

(4) When any emigrant sent abroad under the security of the company comes under the protection of the Japanese authorities from any causes, or is sent back to Japan by such authorities, the company shall indemnify all expenses incurred to the proper authorities on behalf of the emigrant.

(5) The emigrant shall pay to the company a fee of 7 yen.

(6) The emigrant, or his guaranties, shall be responsible for and make good to the company all expenses paid for him, in cases mentioned either in articles 3 or 4.

(7) The guaranties shall be responsible for the conduct and character of the emigrant, and liable for anything that may happen him during the term of this agreement.

In witness whereof this agreement is made in duplicate, a copy of each to be kept by the emigrant and the company aforesaid.

E. J. SMITHERS,
Consul.

HIOGO, *August 11, 1894.*

EXPORTS DECLARED FOR THE UNITED STATES.

The following statements show the exports declared for the United States at the consulates and agencies of certain countries during the quarter ending September 30, 1894. The exports declared during the quarter ending June 30, were printed in CONSULAR REPORTS No. 168; a few statements for the quarter, which were not received in time for insertion in that number, were printed in Nos. 169 and 170. As much of the value of these statements depends upon their early publication, the Department hopes that consuls-general and consuls will comply with the instructions contained in the declared-export circular transmitted to them on January 20, 1894, and referred to and partly printed on page 83 of CONSULAR REPORTS for September (No. 168). In this circular, consuls-general in Canada, Mexico, and the various countries of Europe were instructed to transmit, as soon as possible after the end of each quarter, consolidated statements of exports to the United States declared in their respective districts and in the consular districts subordinate to them. The consuls were directed to forward to the consuls-general having supervision over them the statements of exports for their districts. One of the special reasons for promptness and regularity in making these reports, is the desire of the Department to announce in advance the particular number of CONSULAR REPORTS in which the quarterly statements will appear.

ALGERIA.

[Report by Consul Grellet.]

African fiber	$8,396.62
Goatskins	22,516.03
Rough sticks	51.61
Total	30,964.26

AUSTRIA-HUNGARY.

[Report by Consul-General Judd.]

Budapest.

Beans and lentils	57,204.14
Books and papers	795.31
Cotton goods	121.31
Embroideries and laces	156.31
Furniture	342.06
Glassware	4,506.20
Herbs, roots, and leaves	5,247.84
Mineral water	34,509.24
Oils, paints, and colors	4,799.73
Porcelain and pottery	1,273.31
Pulp	724.41
Umbrella fixtures and sticks	9,911.11
Wines and liquors	6,458.15
Miscellaneous	459.06
Total	126,508.18
Total for same quarter in 1893	107,557.00
Increase	18,951.18

Prague.

Art, works of	2,567.03
Artificial flowers	1,431.03
Beans and lentils	112,658.10
Bed feathers	50,126.51
Beer	30,192.25
Beet-root sugar	100,674.75
Books and papers	2,167.00
Buttons	4,079.94
Carlsbad Sprudel salt	15,231.44
Cloth and woolen goods	5,150.75
Cotton goods	314.14
Drugs and chemicals	14,490.70
Embroideries and laces	1,983.17
Fruits, dried, etc	4,442.88
Glassware	97,682.57
Gloves	29,046.08
Graphite	2,876.56
Gum and glue	2,994.32
Hair:	
Animal	1,190.09
Human	6,452.38
Hops	1,392.31
Jewelry and precious stones	371.49
Linen goods	3,018.07
Metal ware	3,269.96
Mineral water	7,633.55
Musical instruments	6,752.51
Oils, paints, and colors	457.32
Paper goods	$11,530.98
Pearl blanks	1,711.29
Porcelain and pottery	212,000.60
Potash	7,981.87
Pulp	9,057.14
Seeds	4,036.05
Stationery	815.68
Toys	4,261.59
Wines and liquors	547.21
Wool	4,164.87
Miscellaneous	2,490.18
Total	767,244.36
Total for same quarter in 1893	2,381,291.10
Decrease	1,614,046.74

Reichenberg.

Artificial flowers	2,500.48
Buttons	15,492.08
Cloth and woolen goods	484.92
Cotton goods	461.85
Cutlery	8,532.06
Glassware	149,835.16
Jewelry and precious stones	34,452.76
Linen goods	69,700.40
Metal ware	1,167.83
Musical instruments	344.94
Oils, paints, and colors	189.27
Paper goods	306.70
Porcelain and pottery	19,180.58
Silks and velvets	3,628.69
Toys	147.25
Wooden ware	532.36
Miscellaneous	4,736.61
Total	361,693.94
Total for same quarter in 1893	490,876.04
Decrease	129,182.10

Trieste.

Beans and lentils	5,127.98
Cuttle bone	2,652.61
Drugs and chemicals	2,446.00
Fruits, dried, etc	45,956.41
Gum and glue	17,102.83
Herbs, roots, and leaves	4,455.96
Insect powder and flowers	17,945.39
Leather and skins	13,173.62
Oils, paints, and colors	2,480.94
Polishing earth	1,940.67
Seeds	8,846.41
Shell and bone ware	14,566.27
Sponges	1,741.37
White lead	1,536.86
Miscellaneous	3,838.45
Total	143,811.77
Total for same quarter in 1893	231,235.90
Decrease	87,424.13

Vienna.

Albumen	$1,376.99
Amber	1,699.94
Art, works of	5,660.35
Artificial flowers	415.12
Baskets and basket ware	3,959.57
Beans and lentils	28,787.40
Books and papers	5,360.47
Brushes	2,493.29
Buttons	28,841.10
Cloths and woolen goods	7,926.46
Cotton goods	31,279.68
Dresses	1,619.84
Drugs and chemicals	40,361.63
Fans	36,787.16
Felt	3,369.42
Furniture	10,439.87
Glassware	26,480.64
Gloves	13,075.34
Graphite	3,128.39
Hair (animal)	988.68
Hats and caps	3,476.15
Jet trimmings	1,574.64
Leather and skins	796.59
Leather goods	17,217.57
Linen goods	74,435.76
Meerschaum, crude	7,330.30
Metal ware	29,217.96
Musical instruments	1,663.38
Oils, paints, and colors	2,658.16
Ozocerite and ceresin	5,884.84
Paper goods	2,416.89
Pearl blanks	12,261.65
Porcelain and pottery	13,422.29
Pulp	4,406.48
Scientific instruments	2,179.01
Seeds	520.34
Shell and bone ware	15,216.16
Shoes and boots	7,509.60
Silks and velvets	40,464.74
Smokers' articles	20,942.16
Stained glass	4,066.68
Toys	1,595.78
Umbrella fixtures and sticks	12,048.61
Wax figures	607.67
Wines and liquors	10,126.22
Wooden ware	5,921.25
Miscellaneous	4,312.00
Total	556,324.22
Total for same quarter in 1893	692,590.39
Decrease	136,266.17

Total from Austria-Hungary.

Albumen	1,376.99
Amber	1,699.94
Art, works of	8,227.38
Artificial flowers	4,346.63
Baskets and basket ware	3,959.57
Beans and lentils	203,777.62
Bed feathers	50,126.51
Beer	30,192.25
Beet-root sugar	100,674.75
Books and papers	$8,322.78
Brushes	2,493.29
Buttons	48,413.12
Carlsbad Sprudel salt	15,231.44
Cloth and woolen goods	13,562.13
Cotton goods	32,176.98
Cutlery	8,532.06
Cuttle bone	2,652.61
Dresses	1,619.84
Drugs and chemicals	57,298.33
Embroideries and laces	2,139.48
Fans	36,787.16
Felt	3,369.42
Fruits, dried, etc	50,399.29
Furniture	10,781.93
Glassware	278,504.57
Gloves	42,121.42
Graphite	6,004.95
Gum and glue	20,097.15
Hair:	
Animal	2,178.77
Human	6,452.38
Hats and caps	3,476.15
Herbs, roots, and leaves	9,703.80
Hops	1,392.31
Insect powder and flowers	17,945.39
Jet trimmings	1,574.64
Jewelry and precious stones	84,824.25
Leather and skins	13,970.21
Leather goods	17,217.57
Linen goods	147,154.23
Meerschaum, crude	7,330.30
Metal ware	33,655.75
Mineral water	42,142.79
Musical instruments	8,760.83
Oils, paints, and colors	10,585.42
Ozocerite and ceresin	5,884.84
Paper goods	14,254.57
Pearl blanks	13,972.94
Polishing earth	1,940.67
Porcelain and pottery	245,876.78
Potash	7,981.87
Pulp	14,188.03
Scientific instruments	2,179.01
Seeds	13,402.80
Shell and bone ware	29,782.43
Shoes and boots	7,509.60
Silks and velvets	44,093.43
Smokers' articles	20,942.16
Sponges	1,741.37
Stained glass	4,066.68
Stationery	815.68
Toys	6,004.62
Umbrella fixtures and sticks	21,959.72
Wax figures	607.67
White lead	1,536.86
Wines and liquors	17,131.58
Wooden ware	6,453.61
Wool	4,164.87
Miscellaneous	15,836.30
Total	1,955,582.47
Total for same quarter in 1893	3,903,550.43
Decrease	1,947,967.96

BELGIUM.

[Report by Consul Roosevelt.]

Antwerp.

Bagging	$2,738.21
Bleaching powders	13,101.63
Cement	37,749.69
Chicory	3,746.66
Chicory root	1,350.27
Church regalia and ornaments	108.80
Coffee	8,681.20
Diamonds	56,204.91
Feathers, bed	2,776.57
Furniture	4,222.87
Gin	823.62
Glass, plate	1,908.77
Hair, animal	15,666.36
India rubber	46,950.23
Ivory	6,977.69
Lead	82,469.82
Linen goods	4,000.54
Linoleum	4,627.15
Matches	8,568.34
Meat, extract	50,063.22
Oil	9,031.44
Oil paintings	1,573.91
Paper and books	20,117.32
Phosphates	8,451.44
Potash	8,373.83
Rags and paper stock	5,460.64
Sardines	12,527.56
Seed, canary	448.31
Skins (rabbit, sheep, and other)	120,877.14
Soda	13,832.94
Sugar, beet	16,633.57
Tar	561.80
Tobacco	392.11
Vegetable fibers (flax, hemp, and tow)	1,923.21
Wool grease	1,168.42
Wool	87,723.40
Sundries	5,008.12
Total	666,841.71
Total for same quarter in 1893	221,751.86
Increase	445,089.85

Brussels.

Aniline colors	2,331.72
Bagging	926.59
Barrels (iron)	434.25
Braids and button stock	1,696.47
Braids (hat beads) and jet on wire	7,608.98
Bronze ornaments	79.09
Cement	173,369.41
Church regalia and ornaments	268.37
Corsets	60,680.08
Earthenware	1,406.22
Fur, refuse of	951.43
Glass:	
Plate	160,251.59
Window	228,167.91
Other	319.56
Gloves	166,215.31
Haircloth	639.52
Harness	$184.86
Hatters' fur	24,518.78
Horn strips	1,070.20
Household goods and personal effects	2,571.72
Lace goods	45,690.82
Leather	3,715.05
Linen goods	75,983.82
Machinery	6,350.60
Marble	2,992.31
Medicinal plants	3,329.66
Musical instruments	1,094.97
Naphthalene	440.15
Oil paintings	70.45
Paper and books	2,889.25
Phosphates	7,577.61
Rags and paper stock	8,615.00
Rattan	1,006.50
Skins (rabbit, sheep, and other)	45,634.55
Soap and perfumery	135.83
Soda, prussiate of	8,646.50
Stones:	
Ground flint	214.91
Paving	1,420.52
Tiles (encaustic)	544.02
Vegetable fibers (flax, hemp, and tow)	6,132.21
Vegetables, preserved	27,088.39
Wine	314.98
Woolen goods	883.16
Sundries	5,217.52
Total	1,089,680.84
Total for same quarter in 1893	1,095,374.97
Decrease	5,694.13

Ghent.

Braids (hat beads) and jet on wire	124.78
Carpets	376.76
Cement	13,843.93
Chicory	1,100.14
Chicory root	26,153.75
Cordage	2,947.50
Hatters' fur	33,562.80
Lace goods	10,693.18
Linen goods	22,882.12
Machinery	139.93
Oil paintings	86.85
Photographers' supplies	74.20
Plants	42,041.11
Rags and paper stock	78,443.66
Silk shoe laces	1,230.21
Skins (rabbit, sheep, and other)	37,985.15
Vegetable fibers (flax, hemp, and tow)	37,788.60
Yarn, (crochet) cotton	712.52
Total	310,187.19
Total for same quarter in 1893	174,050.70
Increase	136,136.49

Liege.

Arsenic	1,931.00
Carbons	180.30
Cartridge shells	694.25
Fancy goods	3,126.56
Firearms	1,057,109.79

Glassware	$249,244.45
Hones	1,302.27
Indigo	33,315.05
Lamp-burners	3,843.80
Lead	376,455.00
Paper and books	7,242.30
Plants	7.72
Skins (rabbit, sheep, and other)	32,464.92
Straw goods	23,579.50
Superphosphate	10,181.25
Woolen goods	43,325.89
Wool	4,192.42
Zinc	35,369.36
Sundries	431.69
Total	1,883,997.52
Total for same quarter in 1893	1,572,926.51
Increase	311,071.01

Total from Belgium.

Aniline colors	2,331.72
Arsenic	1,931.00
Bagging	3,664.80
Barrels (iron)	434.25
Bleaching powders	13,101.63
Braids and button stock	1,696.47
Braids (hat beads) and jet on wire	7,733.76
Bronze ornaments	79.09
Carpets	376.76
Carbons	180.30
Cartridge shells	694.25
Cement	224,963.03
Chicory	4,846.80
Chicory root	27,504.02
Church regalia and ornaments	377.17
Coffee	8,681.20
Cordage	2,947.50
Corsets	60,680.08
Diamonds	56,204.91
Earthenware	1,406.22
Fancy goods	3,126.56
Feathers, bed	2,776.57
Firearms	1,057,109.79
Fur, refuse of	951.43
Furniture	4,222.87
Gin	823.62
Glass:	
Plate	162,160.36
Window	228,167.91
Other	319.56
Glassware	249,244.45
Gloves	166,215.31
Hair, animal	15,666.36
Haircloth	639.52
Harness	184.86
Hatters' fur	58,081.58
Hones	1,302.27
Horn strips	1,070.20
Household goods and personal effects	2,571.72
India rubber	46,950.23
Indigo	33,315 05
Ivory	6,977.69
Lace goods	56,384.00
Lamp-burners	3,843.80
Lead	458,924.82
Leather	$3,715.05
Linen goods	102,866.48
Linoleum	4,627.15
Machinery	6,490.53
Marble	2,992.31
Matches	8,568.34
Meat, extract	50,063.22
Medicinal plants	3,329.66
Musical instruments	1,094.97
Naphthalene	440.15
Oil	9,031.44
Oil paintings	1,731.21
Paper and books	30,248.87
Phosphates	16,029.05
Photographers' supp'ies	74.20
Plants	42,048.83
Potash	8,373.83
Rags and paper stock	92,519.30
Rattan	1,006.50
Sardines	12,527.56
Seed, canary	448.31
Silk shoe laces	1,230.21
Skins (rabbit, sheep, and other)	236,961.76
Soap and perfumery	135.83
Soda	13,832.94
Prussiate of	8,646.50
Stones:	
Ground flint	214.91
Paving	1,420.52
Straw goods	23,579.50
Sugar, beet	16,633.57
Superphosphate	10,181.25
Tar	561.80
Tiles (encaustic)	544.02
Tobacco	392.11
Vegetable fibers (flax, hemp, and tow)	45,844.02
Vegetables, preserved	27,088.39
Wine	314.98
Wool grease	1,168.42
Woolen goods	44,209.05
Wool	91,915.82
Yarn (crochet), cotton	712.52
Zinc	35,369.36
Sundries	10,657.33
Total	3,950,707.26
Total for same quarter in 1893	3,164,104.03
Increase	786,603.23

CANADA.

MARITIME PROVINCES AND NEWFOUNDLAND.

[Report by Consul-General Ingraham.]

Charlottetown, P. E. I.

Agricultural products (potatoes)	1,006.20
Animals:	
Horses	1,267.00
Sheep and lambs	750.00
Berries	2,059.10
Eggs	5,429.86
Emigrants' effects	2,662.50

Fish:	
Canned	$82,281.94
Fresh	923.50
Pickled	68,787.25
Sounds	445.38
Fur, hides, and skins	2,361.44
Hair (cattle)	715.36
Seats	290.21
Sundries	192.72
Total	169,172.36
Total for same quarter in 1893	188,988.94
Decrease	19,816.58

Halifax, N. S.

Animals (horses)	75.00
Berries	1,736.75
Emigrants' effects	1,080.00
Fish:	
Canned	65,769.50
Dry	45,344.67
Fresh	1,643.06
Oil	8,847.49
Pickled	128,243.49
Fur, hides, and skins	5,522.95
Goods returned to United States	1,486.54
Junk	2,648.47
Laths and lumber	13,457.81
Manganese	313.00
Minerals (silica)	1,447.50
Paper stock	311.87
Sugar	338,813.66
Sundries	182.00
Tea	122.95
Wool	594.04
Total	617,641.75
Total for same quarter in 1893	316,049.31
Increase	301,592,44

Moncton, N. B.

Bark	5,560.00
Berries	21,161.44
Clay (terra alba)	1,352.96
Cotton waste	963.75
Emigrants' effects	2,436.00
Fish:	
Canned	43,515.80
Fresh	396.50
Pickled	734.00
Fur, hides, and skins	193.00
Grindstones	3,640.39
Hair (cattle)	423.25
Laths and lumber	82,369.11
Minerals:	
Plaster, calcined	5,460.22
Rock	17,478.73
Sundries	40.00
Wood:	
Fire	786.75
Pulp	13,283.15
Total	199,795.05
Total for same quarter in 1893	245,625.16
Decrease	45,830.11

Pictou, N. S.

Animals:	
Horses	$282.50
Sheep and lambs	727.71
Coal	16,291.20
Emigrants' effects	1,386.00
Fish:	
Canned	41,964.05
Dry	300.72
Fresh	1,993.63
Oil	3,332.70
Pickled	61,835.23
Goods returned to United States	242.50
Gypsum	4,990.64
Laths and lumber	1,173.95
Stone for building	1,723.25
Sundries	102.50
Wool	1,800.00
Total	138,146.58
Total for same quarter in 1893	126,757.12
Increase	11,389.46

St. John, N. B.

Animals:	
Fowls	50.00
Horses	1,544.00
Bark	2,250.00
Chemical compounds	340.56
Cotton waste	854.46
Fish:	
Fresh	441.00
Oil	3,754.81
Pickled	25,974.01
Fruit, canned	1,358.04
Fur, hides, and skins	668.50
Hay	53.80
Horns	144.88
Junk	1,046.25
Laths and lumber	261,950.01
Malt extract	140.50
Minerals:	
Cement	1,869.00
Granite	783.50
Lime	21,374.97
Paris green	425.00
Salt	3,279.04
Sundries	547.83
Tin	315.00
Wool	14,727.19
Total	343,892.35
Total for same quarter in 1893	583,407.66
Decrease	239,515.31

St. John's, N. F.

Fish:	
Canned	852.50
Dry	14,887.90
Fresh	2,544.70
Oil	9,920.42
Pickled	5,903.30
Junk	453.98

Minerals (copper ore)	$7,522.60
Sulphate of iron	105,197.30
Total	147,282.70
Total for same quarter in 1893	100,014.70
Increase	47,268.00

St. Stephen, N. B.

Agricultural products:	
Beans	965.00
Potatoes	160.00
Turnips	1,928.00
Animals (horses)	951.00
Coal	3,140.00
Emigrants' effects	4,120.00
Fish:	
Dry	304.00
Pickled	35.00
Fur, hides, and skins	2,221.00
Goods returned to United States	84.00
Laths and lumber	28,491.00
Molasses	15,447.00
Salt	204.00
Soda, bicarbonate of	90.00
Tea	248.00
Total	58,388.00
Total for same quarter in 1893	65,174.95
Decrease	9,786.95

Windsor, N. S.

Animals (horses)	99.00
Coal	26,768.00
Cotton waste	389.00
Emigrants' effects	410.00
Grindstones	2,370.00
Gypsum	47,146.00
Laths and lumber	50,573.00
Manganese	750.00
Wood (fire)	6,117.00
Total	134,622.00
Total for same quarter in 1893	140,946.00
Decrease	6,324.00

Woodstock, N. B.

Agricultural products (potatoes)	329.00
Animals:	
Horses	348.00
Sheep and lambs	12,084.20
Emigrants' effects	1,252.00
Goods returned to United States	68.45
Hay	978.00
Laths and lumber	70,629.40
Sundries	290.00
Total	85,979.05
Total for same quarter in 1893	99,092.74
Decrease	13,113.69

Yarmouth, N. S.

Agricultural products (potatoes)	81.00
Animals (horses)	1,052.50
Bark	3,219.00
Cotton waste	410.52
Emigrants' effects	501.00
Fish:	
Canned	$875.00
Dry	5,186.60
Fresh	8,814.02
Pickled	2,278.00
Sounds	90.00
Goods returned to United States	352.50
Junk	10.00
Laths and lumber	26,395.45
Molasses	60.50
Sugar	1,794.11
Sundries	76.00
Wood:	
Fire	13,393.50
Pulp	1,684.00
Total	66,273.70
Total for same quarter in 1893	85,625.35
Decrease	19,351.63

Total from maritime provinces and Newfoundland.

Agricultural products:	
Beans	965.00
Potatoes	1,576.10
Turnips	1,928.00
Animals:	
Fowls	50.00
Horses	5,619.00
Sheep and lambs	13,561.91
Bark	11,029.00
Berries	24,957.29
Chemical compounds	340.56
Clay (terra alba)	1,352.96
Coal	46,199.20
Cotton waste	2,617.73
Eggs	5,429.86
Emigrants' effects	13,847.50
Fish:	
Canned	235,258.79
Dry	66,023.89
Fresh	16,756.41
Oil	25,855.42
Pickled	293,790.28
Sounds	535.38
Fruit, canned	1,358.04
Fur, hides, and skins	10,966.89
Goods returned to United States	2,233.99
Grindstones	6,010.39
Gypsum	52,136.64
Hair (cattle)	1,138.61
Hay	1,031.80
Horns	144.88
Junk	4,158.70
Laths and lumber	535,039.73
Malt extract	140.50
Manganese	1,063.00
Minerals:	
Cement	1,869.00
Copper ore	7,522.60
Granite	783.50
Lime	21,374.97
Paris green	425.00
Plaster, calcined	5,460.22
Rock	17,478.73
Silica	1,447.50

Molasses	$15,507.50
Paper stock	311.87
Salt	3,483.04
Seats	290.21
Soda, bicarbonate of	90 00
Stone for building	1,723.25
Sugar	340,607.77
Sulphate of iron	105,197.30
Sundries	1,431.05
Tea	370.95
Tin	315.00
Wood:	
Fire	20,297.25
Pulp	14,967.15
Wool	17,122.23
Total	1,961,193.54
Total for same quarter in 1893	1,951,681.93
Increase	9,511.61

PROVINCE OF ONTARIO.

[Report by Consul-General Riley.]

Amherstburg.

Grain	764.82
Horses	2,035.00
Logs and timber	2,155.00
Lumber	1,624.07
Shooks, staves, heading, and bolts	21.826.81
Wool	1,034.42
All other articles	300.00
Total	29,740.12
Total for same quarter in 1893	30,815.42
Decrease	1,075.30

Belleville.

Apples, evaporated and green	2,640.05
Beans	49.68
Charcoal	4,503.80
Eggs	76.00
Emigrants' effects	3,717.50
Fertilizers	3,167.50
Hay and straw	3,283.75
Hides and skins	5,579.70
Horses	165.00
Laths and shingles	14,238.89
Lithographing stone	8,500.00
Lumber	155,880.47
Pease	50,492.50
Pickets and palings	794.00
Poles, hop and telegraph	120.60
Posts	2,404.06
Returned products	197.00
Sheep and lambs	999.65
Shooks, staves, heading, and bolts	2,820.00
Wood (pulp)	865.00
Wool	136.87
All other articles	3,974.00
Total	264,606.02
Total for same quarter in 1893	325,749.54
Decrease	61,143.52

Brockville.

Emigrants' effects	$645.00
Hides and skins	17,194.00
Horses	540.00
Laths and shingles	1,995.63
Logs and timber	355.38
Lumber	9,354.65
Returned products	177.39
Wood (cord)	3,724.00
All other articles	160.00
Total	34,146.05
Total for same quarter in 1893	67,210.64
Decrease	33,065.59

Chatham.

Animals for breeding purposes	1,000.00
Beans	22,642.66
Emigrants' effects	2,382.00
Grain	2,673.20
Hides and skins	3,380.29
Horses	200.00
Logs and lumber	10,900.00
Lumber	1,346.00
Lumber, in bond for export	4,473.87
Sheep and lambs	781.25
Shooks, staves, heading, and bolts	46,986.08
Wood (cord)	2,231.50
All other articles	4,061.90
Total	103,058 75
Total for same quarter in 1893	101,845.54
Increase	1,213.21

Clifton.

Animals for breeding purposes	1,000.00
Eggs	1,000.00
Emigrants' effects	1,589.00
Hides and skins	408.06
Horses	3,354.00
Laths and shingles	195.00
Lumber	1,088.50
Pulp	13,822.51
Wood (pulp)	481.50
Wool	625.50
All other articles	4,325.46
Total	27,889.53
Total for same quarter in 1893	9,305.02
Increase	18,584.51

Collingwood.

Apples, evaporated and green	400.00
Bark	5,722.60
Eggs	3,711.56
Emigrants' effects	2,360.00
Fish, fresh and salted	35,616.62
Grain	1,569.24
Laths and shingles	21,932.33
Logs and timber	690,574.00
Lumber	110,254.62
Pease	1,572.50
Poles, hop and telegraph	260.50
Returned products	5.00

Sheep and lambs	$3,025.00
Wood (pulp)	531.50
Wool	192.00
All other articles	428.50
Total	878,155.97
Total for same quarter in 1893	458,983.50
Increase	419,172.47

Fort Erie.

Barley	277.20
Grain	8,145.00
Hides and skins	268.45
Hogs	720.00
Horses	3,709.00
Logs and timber	1,062.00
Returned products	950.00
Sheep and lambs	1,961.25
Shooks, staves, heading, and bolts	1,911.76
All other articles	2,024.00
Total	21,028.66
Total for same quarter in 1893	22,141.72
Decrease	1,113.06

Goderich.

Animals for breeding purposes	400.00
Apples, evaporated and green	2,014.25
Eggs	1,876.50
Emigrants' effects	1,735.00
Fish, fresh and salted	4,205.61
Hay and straw	161.00
Horses	2,080.00
Lumber	1,147.90
Sheep and lambs	3,945.85
Wool	4,138.40
All other articles	468.20
Total	22,172.71
Total for same quarter in 1893	13,770.05
Increase	8,402.66

Guelph.

Animals for breeding purposes	1,260.00
Eggs	1,487.50
Emigrants' effects	1,460.05
Sheep and lambs	2,115.40
All other articles	999.40
Total	7,322.35
Total for same quarter in 1893	17,234.48
Decrease	9,912.13

Hamilton.

Animals for breeding purposes	1,835.00
Apples, evaporated and green	2,138.00
Barley	447.20
Emigrants' effects	20,996.66
Fertilizers	2,662.80
Hides and skins	23,355.38
Hogs	1,152.00
Horses	3,091.00
Ivory buttons and nuts	5,433.56
Laths and shingles	7,488.54
Lumber	13,084.81
Returned products	$3,158.47
Saws, crosscut	2,376.08
Seeds	450.00
Sheep and lambs	3,618.55
Tea	5,956.00
Tin cans	4,352.00
Wool	123,413.76
All other articles	7,293.71
Total	231,903.52
Total for same quarter in 1893	126,079.98
Increase	115,823.54

Kingston.

Barley	4,500.00
Emigrants' effects	6,727.00
Fish, fresh and salted	145.65
Furs	3,371.21
Hay and straw	10,319.00
Hides and skins	561.47
Horses	2,035.00
Laths and shingles	4,241.00
Lumber	9,314.00
Mica, crude and cut	618.42
Pease	2,400.00
Posts	302.25
Returned products	1,325.00
Tea	117.00
Wool	4,531.32
All other articles	2,598.97
Total	53,107.29
Total for same quarter in 1893	59,032.80
Decrease	5,929.51

London.

Animals for breeding purposes	2,600.00
Apples, evaporated and green	115.80
Eggs	9,086.40
Emigrants' effects	10,330.00
Fertilizers	636.98
Grain	1,262.22
Hay and straw	218.00
Hides and skins	12,277.70
Hogs	1,400.00
Horses	3,772.00
Lumber	120.00
Returned products	333.61
Sheep and lambs	2,126.50
Shooks, staves, heading, and bolts	287.50
Tea	997.12
Tobacco	1,067.04
Wool	7,104.33
All other articles	3,140.99
Total	56,876.19
Total for same quarter in 1893	37,843.81
Increase	19,033.38

Morrisburgh.

Eggs	122.50
Emigrants' effects	4,236.50
Hides and skins	2,443.13
Horses	100.00
Lumber	406.49

Returned products	$300.00
Sheep and lambs	3,259.55
Total	10,868.17
Total for same quarter in 1893	7,658.51
Increase	3,209.66

Orilla.

Bark	4,816.00
Emigrants' effects	1,215.50
Hay and straw	973.00
Hides and skins	3,500.00
Laths and shingles	26,425.26
Logs and timber	157.660.00
Lumber	94,413.09
Nickel matte	140,659.36
Poles, hop and telegraph	890.00
All other articles	864.13
Total	431,416.34
Total for same quarter in 1893	359,569.50
Increase	71,846.84

Ottawa.

Eggs	300.00
Emigrants' effects	4,502.25
Furs	100.00
Hay and straw	130.56
Hides and skins	5,310.31
Horses	4,625.00
Laths and shingles	16,648.02
Logs and timber	7.82
Lumber	599,498.91
Lumber, in bond for export	50,032.45
Machinery	612.16
Mica, crude and cut	6,146.13
Pickets and palings	3,107.54
Pulp	29,531.17
Returned products	1,088.00
Wood (pulp)	4,167.20
All other articles	2,533.88
Total	728,341.40
Total for same quarter in 1893	797,427.58
Decrease	69,086.18

Palmerston.

Bark	5,433.60
Emigrants' effects	1,160.50
Fish, fresh and salted	34,013.20
Hay and straw	193.00
Hogs	141.00
Horses	817.50
Lumber	9,504.75
Pease	1,402.00
Poles, hop and telegraph	211.00
Sheep and lambs	38,326.15
Wool	8,674.20
All other articles	177.00
Total	100,053.90
Total for same quarter in 1893	71,555.16
Increase	28,498.74

Port Hope.

Animals for breeding purposes	$5.00
Apples, evaporated and green	1,025.20
Barley	1,100.00
Beans	200.10
Eggs	2,197.50
Emigrants' effects	2,460.75
Fertilizers	254.92
Hay and straw	820.00
Hides and skins	6,700.00
Horses	1,789.00
Laths and shingles	2,903.38
Lumber	6,526.36
Pease	19,586.66
Returned products	735.00
Sheep and lambs	870.00
Wool	2,032.00
All other articles	712.75
Total	49,918.62
Total for same quarter in 1893	50,356.32
Decrease	9,473.70

Port Rowan.

Apples, evaporated and green	552.50
Eggs	374.22
Emigrants' effects	2,469.50
Grain	256.00
Lumber	762.15
Pease	1,326.00
Sheep and lambs	337.00
Shooks, staves, heading, and bolts	2,360.00
All other articles	1,776.52
Total	10,213.89
Total for same quarter in 1893	10,059.94
Increase	153.95

Port Sarnia.

Animals for breeding purposes	2,147.00
Apples, evaporated and green	607.00
Emigrants' effects	5,591.00
Grain	33,869.58
Hay and straw	152.00
Hides and skins	3,576.77
Horses	15,995.00
Logs and timber	420.00
Shooks, staves, heading, and bolts	3,811.62
Wood (pulp)	3,500.00
All other articles	1,063.00
Total	70,732.97
Total for same quarter in 1893	78,004.10
Decrease	7,271.13

Port Stanley and St. Thomas.

Apples, evaporated and green	286.00
Beans	1,869.90
Eggs	1,874.88
Emigrants' effects	4,017.00
Fish, fresh and salted	297.51
Flax and tow	8,425.80
Grain	2,845.50
Hides and skins	700.00

Horses	$1,047.00
Logs and timber	5,572.50
Lumber	1,298.86
Poultry	800.00
Sheep and lambs	4,546.20
Shooks, staves, heading, and bolts	43,580.08
Wool	1,326.77
All other articles	2,987.30
Total	82,475.30
Total for same quarter in 1893	81,584.85
Increase	890.45

Prescott.

Eggs	403.00
Emigrants' effects	569.00
Hides and skins	4,101.15
Horses	1,695.00
Lithographing stone	1,200.00
Lumber	673.52
Nickel matte	62,727.92
Tea	5,731.67
Tobacco	295.75
Whisky	150.00
Wool	451.00
All other articles	935.00
Total	78,933.01
Total for same quarter in 1893	177,440.67
Decrease	198,507.66

Sault Ste. Marie.

Emigrants' effects	200.00
Fish, fresh and salted	23,111.58
Horses	200.00
Logs and timber	563,604.16
Lumber	109,923.72
Wood (pulp)	57,401.00
All other articles	1,367.50
Total	755,807.96
Total for same quarter in 1893	730,745.45
Increase	25,062.51

Stratford.

Emigrants' effects	2,033.00
Flax and tow	35,762.36
Grain	154.00
Hay and straw	481.00
Hogs	910.00
Horses	700.00
Lumber	698.00
Returned products	173.40
Sheep and lambs	4,435.45
All other articles	870.00
Total	46,217.21
Total for same quarter in 1893	37,737.73
Increase	8,479.48

Toronto.

Animals for breeding purposes	6,260.00
Apples, evaporated and green	2,588.50
Barley	4,435.80
Chemical products	$3,956.86
Diamonds	84,621.43
Eggs	2,004.00
Emigrants' effects	59,005.00
Fertilizers	4,761.50
Furs	1,602.00
Grain	6,687 19
Hides and skins	21,826.23
Horses	7,175.50
Jewelers' sweepings	3,960.00
Lumber	49,396.19
Machinery	2,119.93
Paper stock	3,816.08
Pease	5,893.02
Seeds	39,274.94
Sheep and lambs	1,705.40
Tea	6,608.48
Tobacco	2,831.20
Wool	34,821.12
All other articles	5,093.58
Total	360,443.95
Total for same quarter in 1893	190,986.40
Increase	169,457.55

Wallaceburgh.

Emigrants' effects	1,363.00
Logs and timber	15,936.00
Sheep and lambs	387.50
Shooks, staves, heading, and bolts	29,392.63
Wood (cord)	5,780.40
All other articles	304.80
Total	53,164.33
Total for same quarter in 1893	114,272.66
Decrease	57,108.33

Windsor.

Beans	19,961.41
Charcoal	715.00
Emigrants' effects	6,088.00
Hay and straw	285.00
Horses	25,695.00
Logs and timber	53,203.75
Lumber	6,512.97
Machinery	375.00
Poles, hop and telegraph	23,310.12
Shooks, staves, heading, and bolts	37,008.92
Tea	216.48
Tobacco	1,648.30
Whisky	31,503.38
Wood (cord)	673.50
Wool	3,331.82
All other articles	749.00
Total	211,277.65
Total for same quarter in 1893	217,868.96
Decrease	6,591.31

Total from province of Ontario.

Animals for breeding purposes	16,507.00
Apples, evaporated and green	12,367.30
Bark	15,972.20
Barley	10,760.20
Beans	44,723.75
Charcoal	5,218.80

Chemical products	$3,956.86
Diamonds	84,621.43
Eggs	24,514.06
Emigrants' effects	146,853.21
Fertilizers	11,083.70
Fish, fresh and salted	97,390.17
Flax and tow	44,188.16
Furs	5,073.21
Grain	58,226.75
Hay and straw	17,016.31
Hides and skins	111,182.64
Hogs	4,323.00
Horses	80,820.00
Ivory buttons and nuts	5,433.56
Jewelers' sweepings	3,960.00
Laths and shingles	96,068.05
Lithographing stone	9,700.00
Logs and timber	1,501,550.61
Lumber	1,183,830.03
Lumber, in bond for export	54,506.32
Machinery	3,107.09
Mica, crude and cut	6,764.55
Nickel matte	203,387.28
Paper stock	3,816.08
Pease	82,672.68
Pickets and palings	3,901.54
Poles, hop and telegraph	24,792.22
Posts	2,706.31
Poultry	800.00
Pulp	43,353.68
Returned products	8,442.87
Saws, crosscut	2,376.08
Seeds	39,724.94
Sheep and lambs	72,440.70
Shooks, staves, heading, and bolts	189,985.40
Tea	19,626.75
Tin cans	4,352.00
Tobacco	5,842.29
Whisky	31,653.38
Wood:	
Cord	8,685.40
Pulp	70,670.20
Wool	191,813.51
All other articles	49,209.59
Total	4,719,871.86
Total for same quarter in 1893	4,195,280.33
Increase	524,591.53

PROVINCE OF QUEBEC.

[Report by Consul-General Anderson.]

Coaticook.

Animals:	
Breeding	425.00
Horses	1,055.00
Lambs	8,719.00
Sheep	50.00
Articles returned to United States	706.00
Bark, hemlock	960.00
Hay	114.00
Hides and skins (calf)	62.00
Hides and skins (other)	581.00
Household and personal effects	2,873.00
Ores (copper)	1,490.00
Stone (grindstones)	$128.00
Sugar (maple)	4,110.00
Sundries	224.00
Wood and manufactures of:	
Lumber	1,049.00
Clapboards	2,765.00
Logs	22,931.00
All other	5,877.00
Total	54,119.00
Total for same quarter in 1893	120,913.00
Decrease	66,794.00

Gaspé Basin.

Fish (fresh)	1,430.00
Fruits (blueberries)	2,273.04
Sundries	61.05
Wood and manufactures of:	
Railway ties	16,316.45
Shingles	1,400.00
Total	21,480.54
Total for same quarter in 1893	42,341.59
Decrease	20,861.05

Montreal.

Animals:	
Horses	10,541.50
Lambs	980.70
Articles returned to United States	27.081.17
Antiquities	399.50
Books	1,228.49
Chemicals, drugs, dyes, etc.:	
Ashes, pot	877.65
Bone black	1,884.23
Coal tar	2,461.50
Drugs	125.00
Dyes	607.00
Gas liquor	1,591.16
Ginseng	5,289.29
Paris green	105.00
Powder, washing	376.66
Balsam	1,435.17
Sirup of turpentine	400.02
Chemicals, drugs, dyes, etc	1,312.50
Coal	4,039.29
Clays and mineral substances:	
Apatite, ground	335.00
Asbestos	12,847.76
Cement	3,364.27
Corset steels	2,400.00
Firearms	450.96
Fertilizers	2,190.00
Fruits (lemons)	4,790.00
Furs:	
Raw	1,105.97
Cuttings	2,217.03
Gutta-percha	1,108.00
Hair:	
Plastering	750.00
Horse	1,053.00
Hay	6,381.00
Hides and skins:	
Calf	2,630.13
Goat	7,008.66

Hides and skins—Continued.	
Sheep	$462.41
All other	2,107.91
Household and personal effects	30,706.50
Iron and steel	1,912.62
Jewelers' sweepings	1,550.00
Junk	474.26
Leather, scrap	303.86
Paintings	31,677.46
Paper stock	7,117.52
Rubber, scrap	1,337.89
Spirits, distilled:	
Brandy	683.84
Gin	1,580.87
All other	2,598.92
Statuary	363.75
Stone (grindstones)	124.00
Sugar (maple)	2,282.93
Sundries	1,827.30
Sugar, beet root	82,848.48
Tobacco (leaf)	43,020.08
Tea	30,846.26
Tin, pig	525.35
Vegetables (cabbages)	300.00
Woolen rags	3,211.95
Wool	2,505.70
Wood and manufactures of:	
Lumber	130,540.81
Match blocks	6,302.25
Shingles	4,029.26
Wood pulp	1,397.00
All other	300.50
Total	501,507.29
Total for same quarter in 1893	409,203.98
Increase	92,303.31

Quebec.

Animals (breeding)	2,590.80
Articles returned to United States	994.00
Chemicals, drugs, dyes, etc	3,634.16
Clays and mineral substances (asbestos)	55,600.00
Fish (fresh)	5,012.20
Blueberries	22,129.76
Furs:	
Raw	974.90
Cuttings	296.43
Dressed	2,184.50
Hair (plastering)	350.00
Hides and skins	1,105.28
Household and personal effects	3,605.79
Paper stock	706.11
Sugar (maple)	28,069.39
Sundries	2,781.80
Wool	578.81
Wood and manufactures of:	
Lumber	62,103.47
Pulp wood	1,106.25
Railway ties	604.00
Total	194,429.65
Total for same quarter in 1893	169,947.36
Increase	24,482.29

Sherbrooke.

Animals:	
Horses	$1,530.00
Lambs	18,090.96
Articles returned to United States	1,914.21
Bark, hemlock	1,120.00
Clays and mineral substances:	
Asbestos	20,108.00
All other	708.00
Fertilizers	100.00
Hay	142.00
Hides and skins (calf)	1,169.42
Household and personal effects	5,955.50
Ores:	
Copper	1,236.52
Sulphur	6,670.60
All other	5,348.00
Paper stock	421.86
Sugar (maple)	332.66
Sundries	75.00
Wool	2,901.46
Wood and manufactures of:	
Lumber	36,961.64
Pulp wood	2,315.00
Shingles	966.00
Wood pulp	2,972.96
Clapboards	23,398.25
All other	508.90
Total	135,018.94
Total for same quarter in 1893	102,610.49
Increase	32,408.45

St. Hyacinthe.

Animals:	
Horses	890.00
Lambs	751.20
Articles returned to United States	120.00
Bark, hemlock	720.00
Hay	37,703.03
Household and personal effects	1,749.00
Wood and manufactures of:	
Lumber	45,912.97
Pulp wood	1,965.62
Shingles	445.00
Total	90,256.82
Total for same quarter in 1893	107,190.46
Decrease	16,933.64

St. John's.

Animals:	
Horses	4,162.50
Lambs	3,632.00
Sheep	7.20
Books	57.25
All other	63.50
Hay	25,321.85
Household and personal effects	1,870.00
Sugar (maple)	101.50
Sundries	237.90
Wood and manufactures of (lumber)	9,039.00
Total	44,492.70
Total for same quarter in 1893	58,373.70
Decrease	13,881.00

Stanbridge.

Animals:	
Horses	$2,440.00
Lambs	2,592.00
Hay	9,709.93
Hides and skins	1,600.00
Household and personal effects	2,732.00
Sundries	100.00
Wood and manufactures of:	
Lumber	832.00
Railway ties	811.70
Total	20,817.83
Total for same quarter in 1893	42,504.61
Decrease	21,686.78

Three Rivers.

Animals:	
Lambs	10,821.90
Sheep	60.50
Bark, hemlock	130.00
Clays and minerals (asbestos)	300.00
Hay	13,970.31
Hides and skins	568.00
Household and personal effects	5,178.65
Ores	552.38
Sundries	162.00
Wood and manufactures of:	
Lumber	64,162.29
Pulp wood	67,397.29
Shingles	2,496.20
Wood pulp	8,701.68
Logs	350.00
All other	304.00
Total	175,155.20
Total for same quarter in 1893	206,315.69
Decrease	31,160.49

Total from province of Quebec.

Animals:	
Breeding	3,015.80
Horses	20,619.00
Lambs	45,587.96
Sheep	117.70
Articles returned to United States	30,815.38
Antiquities	399.50
Bark, hemlock	2,930.00
Books	1,285.74
All other	63.50
Chemicals, drugs, dyes, etc:	
Ashes, pot	877.65
Bone black	1,884.23
Coal tar	2,461.50
Drugs	125.00
Dyes	607.00
Gas liquor	1,591.16
Ginseng	5,289.29
Paris green	105.00
Powder, washing	376.66
Balsam	1,435.17
Sirup of turpentine	400.02
All other	4,946.66
Coal	4,039.29
Clays and minerals:	
Apatite (ground)	335.00
Asbestos	88,855.76
Clays and minerals—Continued.	
Cement	$3,364.27
All other	780.00
Corset steels	2,400.00
Firearms	450.96
Fertilizers	2,290.00
Fish (fresh)	6,442.20
Fruits:	
Lemons	4,790.00
Blueberries	24,402.80
Furs:	
Raw	2,080.87
Cuttings	2,513.46
Dressed	2,186.50
Gutta-percha	1,108.00
Hair:	
Plastering	1,100.00
Horse	1,053.00
Hay	93,342.12
Hides and skins:	
Calf	3,861.55
Goat	7,008.66
Sheep	462.41
All other	5.962.19
Household and personal effects	54,670.44
Iron and steel	1,112.62
Jewelers' sweepings	1,550.00
Junk	474.26
Leather, scrap	303.86
Ores:	
Copper	2,726.52
Sulphur	6,670.60
All other	5,900.38
Paintings	31,677.46
Paper stock	8,245.49
Rubber, scrap	1,337.89
Spirits, distilled:	
Brandy	683.84
Gin	1,580.87
All other	2,598.92
Statuary	363.75
Stone (grindstones)	252.00
Sugar (maple)	34,896.48
Sundries	5,469.05
Sugar-beet root	82,848.48
Tobacco (leaf)	43,020.08
Tea	30,846.26
Tin, pig	525.35
Vegetables (cabbages)	300.00
Woolen rags	3,211.95
Wool	5,985.97
Wood and manufactures of:	
Lumber	350,601.18
Pulp wood	72,784.16
Railway ties	17,732.15
Match blocks	6,302.25
Shingles	9.336.46
Wood pulp	13,071.64
Clapboards	26,163.25
Logs	23,281.00
All other	6,990.40
Total	1,237,277.97
Total for same quarter in 1893	1,259,400.88
Decrease	22,122.91

CEYLON.

[Report by Consul Morey.]

Colombo.

Cinchona	$4,163.00
Cinnamon	5,320.00
Citronella oil	3,889.00
Cocoa	2,615.00
Cocoanut:	
Desiccated	4,891.00
Oil	166,131.00
Coffee	2,423.00
Coir (yarn)	380.00
Copra, prepared	4,727.00
Medicinal seeds	515.00
Plumbago	64,510.00
Stones (precious)	125.00
Tea	14,871.00
Total	274,560.00
Total for same quarter in 1893	324,437.00

Galle.

Citronella oil	20,626.00
Cocoanut (oil)	45,867.00
Coir (yarn)	1,997.00
Plumbago	3,441.00
Total	71,931.00
Total for same quarter in 1893	46,958.00

Total from Ceylon.

Cinchona	4,163.00
Cinnamon	5,320.00
Citronella oil	24,515.00
Cocoa	2,615.00
Cocoanuts:	
Desiccated	4,891.00
Oil	211,998.00
Coffee	2,423.00
Coir (yarn)	2,377.00
Copra, prepared	4,727.00
Medicinal seeds	515.00
Plumbago	67,951.00
Stones (precious)	125.00
Tea	14,871.00
Total	346,491.00
Total for same quarter in 1893	371,395.00
Decrease	24,904.00

CUBA.

[Report by Consul-General Williams.]

Baracoa.

Bananas	88,059.30
Cocoanuts	3,824.14
Total	91,883.44

Cardenas.

Asphaltum	3,414.54
Molasses	7,669.97
Sugar	$1,851,237.92
Tobacco (leaf)	190.61
Total	1,862,513.04

Cienfuegos.

Beeswax	772.28
Cigars and cigarettes	657.35
Honey	4,102.82
Molasses	4,249.92
Sugar	621,124.20
Tobacco (leaf)	23,149.24
Total	654,055.81

Gibara.

Beeswax	810.40
Birds	325.00
Bananas	219,666.91
Cedar wood	13,093.37
Deerskins	383.88
Fruit	1,941.95
Hides	1,088.60
Honey	190.00
Mahogany	8,286.06
Palm leaf	43.82
Sugar	242,268.83
Tobacco (leaf)	4,462.00
Total	492,560.82

Guantanamo.

Beeswax	462.00
Honey	288.05
Lignum-vitæ	257.32
Sugar	495,442.20
Total	496,449.57

Habana.

Asphaltum	1,112.46
Beeswax	1,863.07
Birds	3,064.29
Bones	4,662.90
Cigars and cigarettes	427,980.40
Fruit	22,788.54
Hides	1,224.58
Hair, raw	873.24
Hide clippings	3,815.66
Hoofs	361.74
Horns	588.99
Metals (old copper, brass, iron, etc.)	14,878.74
Molasses	15,813.84
Pictures	1,395.76
Sugar	5,223,250.18
Sponges	8,421.15
Sundries	10,580.91
Tobacco (leaf)	1,417,634.79
Total	7,160,311.24

Manzanillo.

Cedar wood	85,919.04
Cocus wood	400.00
Dagame spars	1,788.85
Lancewood spars	72.00
Lignum-vitæ	400.00

Mahogany	$5,932.64
Palm leaf	262.50
Sugar	173,313.68
Tobacco (leaf)	446.76
Total	269,535.47

Matanzas.

Beeswax	144.60
Molasses	4,015.68
Sugar	1,576,441.01
Total	1,580,601.29

Nuevitas.

Bast (Cuban leaf)	1,435.00
Beeswax	4,272.02
Bones	91.85
Cedar wood	14,505.01
Hides	5,847.90
Honey	1,248.83
Mahogany	1,108.57
Sugar	127,386.24
Total	155,895.42

Sagua la Grande.

Sugar	1,302,518.51

San Juan de los Remedios.

Sugar	1,377,825.88

Santa Cruz.

Cedar wood	63,916.94
Mahogany	609.37
Total	64,526.31

Santiago de Cuba.

Beeswax	3,249.43
Cedar wood	7,567.59
Cocoa	461.70
Hides	384.98
Iron ore	67,000.00
Molasses	102.60
Mahogany	3,775.90
Palm leaf	772.10
Sugar	101,625.60
Total	184,939.90

Trinidad de Cuba.

Molasses	7,350.68
Sugar	28,548.59
Total	35,899.27

Zaza.

Cedar wood	21,048.00
Dyewood	840.00
Honey	2,000.00
Mahogany	6,835.00
Total	30,723.00

Total from Cuba.

Asphaltum	4,527.00
Bast (Cuban leaf)	1,435.00
Beeswax	$11,573.80
Birds	3,389.29
Bones	4,754.75
Bananas	307,726.21
Cigars and cigarettes	428,637.75
Cedar wood	206,049.95
Cocoa	461.70
Cocoanuts	3,824.14
Cocus wood	400.00
Deerskins	383.88
Dyewood:	840.00
Dagame spars	1,788.85
Fruit	24,730.49
Hides	8,546.06
Hair, raw	873.24
Hide clippings	3,815.66
Hoofs	361.74
Horns	588.99
Honey	7,829.70
Iron ore	67,000.00
Lancewood spars	72.00
Lignum-vitæ	654.32
Metals (old copper, brass, iron, etc.)	14,878.74
Molasses	39,202.69
Mahogany	26,547.54
Palm leaf	1,078.42
Pictures	1,395.76
Sugar	13,120,982.84
Sponges	8,421.15
Sundries	10,580.91
Tobacco (leaf)	1,446,883.40
Total	15,760.238.97

DANISH WEST INDIES.

[Report by Consul Stewart.]

St. Thomas.

Bay rum	657.60
Cocoa	187.08
Skins (goat)	254.41
Turtle shell	3,918.14
Whisky	1,538.25
Total	6,555.50
Total for same quarter in 1893	5,814.82
Increase	740.68

Christiansted (St. Croix).

Sugar	21,502.31
Total for same quarter in 1893	49,699.12
Decrease	28,196.81

Fredericksted (St. Croix).

Rum	226.17
Sugar	66,178.51
Total	66,404.68
Total for same quarter in 1893	119,227.49
Decrease	52,822.81

Total from Danish West Indies.

Bay rum	$657.62
Cocoa	187.08
Rum	226.17
Skins (goat)	254.41
Sugar	87,680.82
Turtle shell	3,918.14
Whisky	1,538.25
Total	94,462.49
Total for same quarter in 1893	174,741.43
Decrease	80,278.94

DENMARK.

[Report by Consul Kirk.]

Copenhagen.

Animals for breeding	187.00
Bagging	2,315.38
Books	411.79
Brandy (cherry)	157.16
Cement	14,730.68
Cotton nets	910.62
Cotton tares	937.08
Delftware	120.60
Flint stones	228.40
Furniture	1,255.45
Grass seeds	1.292.13
Glue	903.16
Machinery	2,154.09
Music	182.75
Porcelain and terra cotta	3,810.84
Rags	2,567.37
Rape-seed oil	1,028.74
Rennets	1,992.92
Rope, old	529.14
Rubber shoes, old	540.30
Skins, dressed lamb	4,044.88
Miscellaneous	268.00
Total	40,568.48

FRANCE,

[Report by Consul-General Morss.]

Bordeaux (including Pau).

Argols, or tartar	48,495.55
Books, prints, and engravings	46.32
Boots and shoes	297.34
Brandy and liquors	14,189.43
Buttons	41.34
Capsules for closing bottles	4,468.00
Cheese	1,207.50
Corks	540.07
Drugs, medicinal plants, etc	1,474.03
Feathers	1,206.25
Gum	7,025.37
Hair (animal)	1,922.87
Hardware, machinery, etc	95.73
Indigo	3,734.11
Macaroni	6,721.14
Mineral water	4,179.91
Mustard	2,532.43
Nuts	$1,866.64
Oil (olive)	52,558.95
Paper	29,179.99
Preserved fish, sardines, etc	9,090.22
Preserved fruits and vegetables, not elsewhere specified	274,193.11
Preserved meat	1,796.18
Prunes	89,341.34
Rags	3,699.12
Skins, hides, and leather	6,854.57
Soap	47.86
Straw goods	26.15
Sugar	2,551.70
Truffles	4,401.18
Vanilla	4,865.10
Vinegar	1,823.77
Wine	174,756.97
Wine lees	4,258.95
Wool	123,020.38
All other articles	1,030.79
Total	883,540.36
Total for same quarter in 1893	634,432.16
Increase	249,108.20

Calais.

Laces	512,175.75

Cognac.

Brandy	146,558.84
Hardware (brass vise)	214.58
Wine	722.61
Total	147,496.03
Total for same quarter in 1893	105,019.23
Increase	42,476.80

Grenoble.

Brandy and liquors	6,474.10
Cheese	9,131.03
Gloves	464,791.71
Macaroni	1,831.10
Nuts	5,096.88
Skins	7,058.55
Wool	1,747.65
Total	496,131.02

Havre (including Cherbourg, Honfleur, Rennes, and St. Malo).

Art, works of, and antiquities	13,810.88
Books	114.80
Boots and shoes, harness and saddlery	552.33
Brandy and liquors	11,738.73
Bristles	3,318.48
Carriages (sledge)	135.10
Cheese	3,274.46
Church ornaments	2,463.36
Coffee	443,292.29
Dyestuffs	33,876.00
Emery	5,790.00
Feathers	2,943.03
Furniture (household effects)	3,705.60
Grease, tallow, stearin, etc	4,294.44

Hair (animal)	$389,32
Nacker	3,742.62
Nickel	1,911.16
Oils	4,507.47
Optical and scientific instruments	2,588.71
Paints and colors	341.31
Pepper	11,257.83
Preserved fruits and vegetables	176.30
Preserved meat (ham)	225.81
Rags and old bagging	4,986.29
Rubber, India	3,980.77
Saffron	1,189.67
Seed (clover)	8,550.77
Skins and hides	25,771.12
Sugar and confectionery (cacao)	241.78
Wood	115.41
Wool	2,981.60
All other articles	1,190.42
Total	603,477.31
Total for same quarter in 1893	833,257.45
Decrease	229,780.14

Limoges (*including Périgueux*).

Glassware, china, etc	259,392.57
Hair (animal)	13,345.00
Truffles and mushrooms	1,140.31
Total	273.877.88
Total for same quarter in 1893	341,674.94
Decrease	67,797.06

Lyons (*including Dijon*).

Argols	83,077.29
Buttons and trimmings, thread, etc	195.51
Candle wicks	4,153.03
Church ornaments and metallic trimmings	38,676.94
Clocks and watches	7,025.54
Dyestuffs	6,491.04
Fancy goods (manufactures of celluloid)	914.00
Glue and gelatin	6,830.85
Hair (animal)	1,734.10
Hardware, machinery, metal manufactures	4,620.04
Hatters' goods, furs, etc	2,085.41
Laces:	
Silk	156,180.26
Linen	9,780.73
Macaroni and other similar preparations	15,386.64
Merinos, cashmere, and miscellaneous dress goods	195.51
Mineral water	16,635.63
Musical instruments	1,247.84
Optical and scientific instruments	1,367.45
Paper, manufactures of	226.82
Preserved fruits	2,572.47
Preserved meat (sausages)	497.85
Silk:	
Raw	132,844.71
Spun	429.23
Waste	10,957.19
Silk—Continued.	
Manufactures—	
Handkerchiefs, mufflers, and ties	$5,203.29
Piece goods	845,678.72
Pongees	142,770.92
Ribbons	19,066.75
Velvet and plushes	148,032.90
Skins and leather	13,544.53
Smokers' articles and pipes	18,497.50
Stone (marble for mosaics)	3,848.52
Sugar and confectionery, glucose	838.58
Terra alba	410.04
Wines and liquors	10,731.18
Wood sticks	553.91
All other articles	378.86
Total	1,713,681.78
Total for same quarter in 1893	2,127,747.70
Decrease	414,065.92

Marseilles (*including Bastia, Cette, and Toulon*).

Argols	31,951.32
Asphalt	5,648.63
Brandy and liquors	2,026.32
Chemicals, not elsewhere specified	2,067.01
Drugs and medicinal flowers and plants	28,929.39
Gloves	283.05
Glue and gelatin	13,968.33
Glycerin	2,559.99
Hair (human)	11,083.17
Macaroni	9,097.82
Nuts (almonds, etc.)	83,600.75
Oils	54,597.58
Ores	9,854.78
Paints and colors	6,784.77
Paper	8,685.58
Perfumery	1,205.74
Preserved fruits and vegetables, not elsewhere specified	40,630.15
Rags	1,757.45
Seeds and plants	66,898.33
Skins	34,897.71
Soap	14,183.28
Stone (marble, etc.)	6,767.89
Sugar and confectionery	30,873.34
Terra alba	920.75
Truffles	785.55
Wines	19,323.17
Wood	14,880.83
Wool	341,049.60
All other articles	5,125.65
Total	850,429.13
Total for same quarter in 1893	314,711.28
Increase	535,717.85

Nantes (*including Angers, Brest, and Lorient*).

Church articles	219.10
Oils	171.08
Paints and colors	2,884.93

Preserves:	
Fish (sardines, etc.)	$146,155.40
Meat (*pâté de foie gras*)	1,373.49
Vegetables	125,834.87
Seeds	976.62
Tin cans	10,727.25
Truffles	174.32
Wines	1,551.33
Total	290,068.39
Total for same quarter in 1893	303,152.25
Decrease	13,083.86

Nice (*including Cannes, Mentone, and Monaco*).

Brandy and liquors	148.70
Glassware and pottery	423.72
Oil	14,735.32
Perfumery and toilet articles	85,351.42
Seeds and plants	109.76
Sugar and confectionery	141.85
Total	100,910.77
Total for same quarter in 1893	69,312.52
Increase	31,598.25

Paris.

Albumen	6,757.00
Argols	32,038.00
Art, works of (antiquities, bronzes, paintings, and statuary)	588,215.00
Blacking	15,376.00
Books, prints, and engravings	63,548.00
Boots and shoes	2,891.00
Brandy and liquors	11,717.00
Bristles	18,673.00
Brushes	68,225.00
Buttons and trimmings	283,423.00
Carpets	8,884.00
Carriages and parts of	7,167.00
Chemicals not elsewhere specified	39,673.00
Church ornaments and metallic trimmings	27,246.00
Clocks and watches, and materials of.	46,962.00
Corsets	56,324.00
Costumes and dresses	108,373.00
Cotton goods	53,926.00
Drugs and medicinal plants	33,470.00
Dyestuffs	10,899.00
Fancy goods	290,983.00
Feathers and flowers, artificial and millinery	732,875.00
Furniture, cabinet, and household goods	133,522.00
Glassware, mirrors, China and earthen ware	109,744.00
Gloves	156,391.00
Glue and gelatin	13,392.00
Glycerin	20,428.00
Grease (tallow and stearin)	427.00
Hair:	
Human	11,469.00
Animal	30,581.00
Hardware, machinery, and metal manufactures	24,566.00
Hatters' goods, furs, rabbit skins, etc.	$573,971.00
Hosiery	48,912.00
Jewelry and precious stones	606,883.00
Laces, tulles, crapes, embroideries, etc	210,240.00
Linen goods	32,498.00
Macaroni and similar preparations	3,140.00
Merinos, cashmeres, and miscellaneous dress goods	570,136.00
Musical instruments	18,689.00
Oil (olive)	867.00
Opticals and scientific instruments	106,988.00
Paints, colors, and artists' supplies	20,994.00
Paper and stationery	22,470.00
Perfumery and toilet articles	156,598.00
Platinum	12,402.00
Preserves:	
Fish (sardines, sprats, etc.)	22,000.00
Fruits and vegetables, not elsewhere specified	58,206.00
Meat	5,465.00
Rags and new cuttings, old bagging, and paper	5,874.00
Rubber and manufactures of	2,327.00
Seeds and plants:	
Clover seed	5,870.00
Other seeds and plants	13,452.00
Shawls	7,425.00
Silk, manufactures of	214,446.00
Skins, hides, and leather	275,246.00
Soap grease from the skins of sheep	426.00
Stones and marble, tiles, millstones, cement, etc	3,680.00
Sugar and confectionery	15,260.00
Upholstery goods and wall paper	136,980.00
Vanilla	69,611.00
Whalebone and horn tips for corsets	35,549.00
Wines	7,245.00
Wood, wooden ware, and willow ware	10,390.00
Wool and wool waste	10,920.00
Woolen cloth	21,240.00
All other articles	503,527.00
Total	6,818,102.00
Total for same quarter in 1893	6,334,667.00
Increase	483,435.00

Rheims (*including Troyes*).

Art, works of (statuary)	1,816.13
Books, prints, and engravings	322.38
Cotton goods	3,036.46
Drugs	143.71
Dyes (wash blue)	368.43
Glassware, mirrors, china and earthen ware	25,537.61
Gloves	123,236.58
Hardware and machinery	2,373.28
Hatters' goods (rabbit skins)	13,425.83
Hosiery	1,284.20
Merinos and miscellaneous dress goods	5,091.80
Rubber	2,377.51
Stones (marble and tiles)	2,487.30

Straw hats	$194.15
Tin foil	102.38
Willow ware	8,099.16
Wines (champagne)	574,820.34
All other articles	232.83
Total	764,950.08
Total for same quarter in 1893	749,237.90
Increase	15,712.18

Roubaix (*including Caudry, Dunkirk, and Lille*).

Buttons, trimmings, and thread	2,105.00
Chalk	4,753.00
Chemicals (carbonate of potash and other)	9,932.00
Cotton goods	751.00
Flax and flax waste	29,915.00
Glass	259.00
Hardware and machinery	246.00
Jute	5,608.00
Laces	15,969.00
Malt	4,313.00
Merinos and miscellaneous dress goods	307,506.00
Seed (clover)	3,928.00
Silk waste (*shappe*)	7,888.00
Smokers' articles, pipes, etc	157.00
Soap grease	10,511.00
Tiles	2,100.00
Upholstery goods	69,240.00
Wool and wool waste	87,038.00
All other articles	1,433.00
Total	563,652.00
Total for same quarter in 1893	753,603.00
Decrease	189,951.00

Rouen (*including Boulogne-sur-mer and Dieppe*).

Art, works of	390.67
Bristles	833.50
Chemicals	2,846.89
Flour (Hungarian)	810.00
Glycerin	6,042.98
Hardware (carriage trimmings)	115.89
Lastings	1,612.18
Musical instruments	1,557.61
Rags and other paper-making material	9,315.09
Upholstery (Utrecht velvet)	775.53
Total	24,300.34
Total for same quarter in 1893	*323,936.79
Decrease	299,636.45

St. Etienne.

Buttons and trimmings (button stock and braids)	12,378.62
Carriages and carriage wheels	67.30
Cheese	$4,072.77
Gloves	9,248.51
Hardware (rat traps, healds, knives, and locks)	3,056.01
Laces	34,340.92
Linings	1,569.59
Rubber, manufactures of	1,146.76
Silk:	
Raw	422.94
Manufactures of—	
Ribbons, silk and velvet	162,250.44
Velvet (piece)	3,895.49
Sugar and confectionery	1,789.65
Total	234,239.00
Total for same quarter in 1893	459,343.13
Decrease	225,104.13

Total from France.

Albumen	6.757.00
Argols	195,562.00
Art, works of (paintings, bronzes, statuary, and antiquities)	604,232.00
Asphalt	5,649.00
Blacking	15,376.00
Books, (printed) and engravings	64,031.00
Boots, shoes, harness, and other leather manufactures	3,740.00
Brandy and liquors	192,853.00
Bristles	22,824.00
Brushes	68,225.00
Buttons and trimmings	298,143.00
Candle wicks	4,153.00
Capsules for closing bottles	4,468.00
Carpets	8,884.00
Carriages and parts of	7,359.00
Chalk	4,753.00
Cheese	17,706.00
Chemicals, not elsewhere specified	54,539.00
Church ornaments and metallic trimmings	68,605.00
Clocks and watches, and materials of	53,988.00
Coffee	443,292.00
Corks	540.00
Corsets	56,324.00
Costumes and dresses	108,373.00
Cotton goods	57,714.00
Drugs and medicinal plants and flowers	64,008.00
Dyestuffs	51,635.00
Emery	5,790.00
Fancy goods	291,897.00
Feathers and flowers (artificial and millinery)	737,024.00
Flax and flax waste	29,915.00
Furniture, household goods, etc	137,228.00
Glassware, mirrors, China, and earthen ware	375,099.00
Gloves	754,209.00
Glue and gelatin	34,191.00
Glycerin	29,031.00
Grease, tallow, and stearin	4,721.00
Gum	7,025.00

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* This total includes the exports from Calais, which was then an agency under Rouen.

Hair:	
Animal	$47,972.00
Human	22,552.00
Hardware, machinery, and metal manufactures	35,287.00
Hatters' goods (furs, rabbit skins, etc.)	589,482.00
Hosiery	50,196.00
Indigo	3,734.00
Jewelry and precious stones	606,883.00
Jute	5,608.00
Laces, tulle, crape, embroderies, etc.	928,906.00
Linen goods	42,279.00
Macaroni and similar preparations	36,177.00
Malt	4,313.00
Merinos, cashmere, and miscellaneous dress goods	886,111.00
Mineral water	20,816.00
Musical instruments	21,495.00
Mustard	2,533.00
Nacker	3,743.00
Nickel	1,911.00
Nuts, almonds, etc	90,565.00
Oils, except essential	127,436.00
Opticals and scientific instruments	110,944.00
Ores	9,855.00
Paints and colors (artists' supplies)	31,005.00
Paper and stationery	60,563.00
Pepper	11,258.00
Perfumery and toilet articles	243,155.00
Platinum	12,402.00
Preserves:	
Fish (sardines, sprats, etc.)	177,245.00
Fruits and vegetables, not elsewhere specified	501,612.00
Meat	9,359.00
Prunes	89,341.00
Rugs, new cuttings, old bagging, and paper	25,631.00
Rubber and manufactures of	9,832.00
Saffron	1,190.00
Seeds and plants:	
Clover seed	18,349.00
Other seeds and plants	81,437.00
Shawls	7,425.00
Silk:	
Raw, spun, and waste	152,542.00
Manufactures	541,345.00
Skins, hides, and leather	363,373.00
Smokers' articles, pipes, etc	18,654.00
Soap	14,231.00
Soap grease from the skins of sheep	10,937.00
Stones (millstones, marble, tiles, cement, etc.)	18,884.00
Straw goods	220.00
Sugar and confectionery	51,698.00
Terra alba	1,331.00
Tin, tin foil, and tin cans	10,829.00
Truffles	6,501.00
Upholstery goods and wall paper	206,995.00
Vanilla	74,476.00
Vinegar	1,824.00
Whalebone and horn tips for corsets	35,549.00
Wine lees	4,259.00
Wines	789,150.00
Wood, wooden ware, and willow ware	34,040.00
Wool and wool waste	$566,758.00
Woolen cloth	21,240.00
All other articles	513,730.00
Total	14,277,031.00
Total for same quarter in 1893	13,350,145.00
Increase	926,886.00

GERMANY.

FRANKFORT AND CONSULATES THEREUNDER.

[Report by Consul-General Mason.]

Aix la Chapelle.

Books, stationery, photographs, and paper ware	57,404.54
Buttons and button stuffs, etc	7,077.00
China, glass, porcelain, stone and earthen ware	529.94
Dyes, drugs, chemicals, etc	39,458.36
Ironware, steel, cutlery, etc	11,765.65
Linen, woolen, and cotton goods	81,016.91
Machinery	865.89
Mineral water	3,176.82
Pins and needles	13,688.94
Sundries	680.99
Total	215,665.04
Total for same quarter in 1893	329,301.85
Decrease	113,636.81

Bamberg.

Baskets and basket ware	47,705.01
China, glass, porcelain, stone and earthen ware	48,591.97
Dyes, drugs, chemicals, etc	809.43
Hops	2,120.10
Statuary and sculpture	1,753.26
Sundries	405.59
Steel (manufactured) and Bessemer	1,247.05
Wine, brandy, beer, and liquors	2,514.17
Total	105,151.58
Total for same quarter in 1893	83,879.54
Increase	21,272.04

Barmen.

Braids, bindings, trimmings, etc	186,024.62
Books, stationery, photographs, and paper ware	9,756.08
Buttons and button stuffs, etc	15,754.28
Dyes, drugs, chemicals, etc	149,931.27
Fancy goods and toys	21,635.91
Hatbands and ribbons	268,064.30
Ironware, steel, cutlery, etc	420,353.83
Linen, woolen, and cotton goods	59,197.35
Machinery	1,105.85
Prunes, dried fruits, nuts, land produce, etc	1,606.36
Pins and needles	22,920.30

Silk, silk goods, velvets, ribbons and braids, etc	$256,161.01
Sundries	2,260.52
Total	1,414,771.68
Total for same quarter in 1893	1,300,930.74
Increase	113,840.94

Cologne.

Books, stationery, photographs, and paper ware	953.56
China, glass, porcelain, stone, and earthen ware	27,266.05
Cologne water	2,775.65
Dyes, drugs, chemicals, etc	149,006.84
Ironware, steel, cutlery, etc	2,589.91
Leather goods	33,741.01
Linen, woolen, and cotton goods	297.12
Machinery	9,195.41
Mineral water	119,108.75
Prunes, dried fruits, nuts, land produce, etc	22,933.13
Silk, silk goods, velvets, ribbons and braids, etc	39,253.27
Smokers' articles, snuff, cigars, and tobacco	5,197.66
Soaps and perfumery	3,718.87
Sundries	11,036.30
Steel (manufactured) and Bessemer	10,106.24
Wine, brandy, beer, and liquors	37,720.47
Total	474,900.24
Total for same quarter in 1893	532,667.08
Decrease	57,766.84

Crefeld.

Braids, bindings, trimmings, etc	24,493.43
Books, stationery, photographs, and paper ware	19,636.85
Dyes, drugs, chemicals, etc	16,357.40
Linen, woolen, and cotton goods	14,672.55
Silk, silk goods, velvets, ribbons and braids, etc	731,238.22
Soaps and perfumery	489.34
Sundries	3,726.41
Wine, brandy, beer, and liquors	4,464.88
Total	815,088.08
Total for same quarter in 1893	1,400,139.75
Decrease	585,051.67

Dusseldorf.

Books, stationery, photographs, and paper ware	10.345.89
Caps and cartridges	2,631.25
China, glass, porcelain, stone, and earthen ware	4,628.40
Dyes, drugs, chemicals, etc	32,332.88
Fancy goods and toys	796.38
Ironware, steel, cutlery, etc	7,866.86
Linen, woolen, and cotton goods	11,140.92
Machinery	61,058.71
Mineral water	1,862.12
Oil and glass paintings and chromos	148.75

Silk, silk goods, velvets, ribbons and braids, etc	$15,553.08
Sundries	2,043.76
Wine, brandy, beer, and liquors	91.98
Total	150,500.98
Total for same quarter in 1892	180,021.39
Decrease	29,520.41

Frankfort.

Baskets and basket ware	236.10
Brushes and hair pencils	1,236.07
Books, stationery, photographs, and paper ware	16,830.41
Cement	40,521.93
Clay	14,405.16
China, glass, porcelain, stone, and earthen ware	5,177.33
Colored, photographic, and fancy paper	16,620.20
Dyes, drugs, chemicals, etc	316,178.16
Fancy goods and toys	31,073.39
Gloves	8,472.86
Hatters' fur	8,799.98
Hair, prepared and raw	40,430.96
Hares' hair	26,430.67
Hops	2,768.59
Instruments	577.70
Ironware, steel, cutlery, etc	7,486.33
Leather, hides, and skins	182,619.44
Leather goods	13,102.29
Linen, woolen, and cotton goods	3,596.49
Machinery	3,746.38
Mineral water	11,886.52
Music and musical strings and instruments	1,119.29
Optical goods	7,783.81
Oil and glass paintings and chromos	4,853.93
Platina wire and platinum	51,793.54
Prunes, dried fruits, nuts, land produce, etc	3,580.30
Seeds, plants, etc	5,199.43
Smokers' articles, snuff, cigars, and tobacco	9,206.93
Soaps and perfumery	4,217.60
Sundries	7,487.58
Wine, brandy, beer, and liquors	18,116.58
Watches, clocks, and watchmen's detectors	2,429.53
Wool	19,593.75
Total	887,579.23
Total for same quarter in 1893	646,912.99
Increase	240,666.24

Freiburg.

Books, stationery, photographs, and paper ware	17,905.90
Buttons and button stuffs, etc	3,838.90
Cement	864.00
Dyes, drugs, chemicals, etc	32,740.30
Leather, hides, and skins	1,665.80
Linen, woolen, and cotton goods	22,068.95
Machinery	405.80

Music and musical strings and instruments	$1,075.10
Silk, silk goods, velvets, ribbons and braids, etc	9,969.00
Sundries	4,248.40
Wine, brandy, beer, and liquors	365.40
Watches, clocks, and watchmen's detectors	4,331.60
Wool	153.85
Total	99,651.00
Total for same quarter in 1893	127,213.65
Decrease	27,562.65

Fürth.

Bronze powder and leaf metal	50,157.65
Books, stationery, photographs, and paper ware	6,114.29
Fancy goods and toys	109,139.71
Glass (plate, window, and mirror)	189,005.45
Gold, silver, and metal paper	9,176.43
Hops	275.30
Ironware, steel, cutlery, etc	1,631.71
Optical goods	2,405.25
Prunes, dried fruits, nuts, land produce, etc	10,251.11
Smokers' articles, snuff, cigars, and tobacco	370.92
Sundries	8,710.30
Total	387,238.12
Total for same quarter in 1893	381,738.65
Increase	5,499.47

Kehl.

Bronze powder and leaf metal	645.56
Books, stationery, photographs, and paper ware	5,232.96
China, glass, porcelain, stone and earthen ware	30,677.70
Dyes, drugs, chemicals, etc	11,347.26
Fancy goods and toys	773.31
Hair, prepared and raw	10,445.97
Instruments	602.00
Leather, hides, and skins	30,276.72
Leather goods	2,469.38
Linen, woolen, and cotton goods	41,704.76
Lithographic stones and materials	3,012.88
Oil and glass paintings and chromos	171.36
Prunes, dried fruits, nuts, land produce, etc	3,740.84
Silk, silk goods, velvets, ribbons and braids, etc	13,925.89
Smokers' articles, snuff, cigars, and tobacco	1,100.19
Sundries	349.55
Wine, brandy, beer, and liquors	2,014.47
Watches, clocks, and watchmen's detectors	379.96
Total	158,870.76
Total for same quarter in 1893	234,906.33
Decrease	76,035.57

Mannheim.

Books, stationery, photographs, and paper ware	$3,431.98
Cement	42,385.12
Dyes, drugs, chemicals, etc	421,239.60
Ironware, steel, cutlery, etc	1,494.87
Leather, hides, and skins	235,578.66
Linen, woolen, and cotton goods	4,131.81
Sundries	19,950.39
Wine, brandy, beer, and liquors	46,972.80
Total	775,185.23
Total for same quarter in 1893	641,128.92
Increase	134,056.31

Mayence.

Books, stationery, photographs, and paper ware	1,267.25
Cement	60,286.09
Dyes, drugs, chemicals, etc	89,396.10
Hops	2,687.52
Ironware, steel, cutlery, etc	2,103.00
Jewelry and precious stones	59,991.63
Leather, hides, and skins	30,490.30
Prunes, dried fruits, nuts, land produce, etc	4,981.11
Sundries	2,004.56
Wine, brandy, beer, and liquors	132,448.67
Total	385,656.23
Total for same quarter in 1893	415,243.57
Decrease	29,587.34

Munich.

Brushes and hair pencils	3,220.34
Bronze powder and leaf metal	520.33
Books, stationery, photographs and paper ware	18,317.82
China, glass, porcelain, stone, and earthen ware	1,056.51
Dyes, drugs, chemicals, etc	6,491.47
Fancy goods and toys	1,904.11
Gold, silver, and metal paper	3,996.22
Gloves	56,876.82
Instruments	3,823.22
Leather, hides, and skins	1,969.90
Linen, woolen, and cotton goods	5,207.87
Music and musical strings and instruments	2,556.84
Oil and glass paintings and chromos	57,085.76
Prunes, dried fruits, nuts, land produce, etc	1,356.60
Statuary and sculpture	6,804.25
Sundries	11,493.45
Wine, brandy, beer, and liquors	15,729.02
Watches, clocks, and watchmen's detectors	1,810.25
Total	200,220.78
Total for same quarter in 1893	206,613.41
Decrease	6,392.63

Nuremberg.

Brushes and hair pencils	$3,306.81
Bronze powder and leaf metal	58,000.73
Books, stationery, photographs, and paper ware	26,425.81
Clay	501.34
China, glass, porcelain, stone, and earthen ware	23,197.84
Decalcomania	9,811.50
Dyes, drugs, chemicals, etc	10,665.61
Fancy goods and toys	19,962.47
Gold, silver, and metal paper	1,557.29
Gas-burners, lava gas tips, and brass lamps	4,285.70
Hair, prepared and raw	1,026.99
Hops	12,770.28
Instruments	15,368.18
Ironware, steel, cutlery, etc	6,936.46
Leather, hides, and skins	3,515.47
Leonic ware	5,776.69
Linen, woolen, and cotton goods	4,083.11
Lithographic stones and materials	14,462.06
Machinery	241.57
Music and musical strings and instruments	4,948.06
Oil and glass paintings and chromos	1,302.47
Slates, slate pencils, and lead pencils	28,344.47
Smokers' articles, snuff, cigars, and tobacco	861.10
Sundries	16,758.89
Wine, brandy, beer, and liquors	8,618.49
Total	282,729.39
Total for same quarter in 1893	342,359.72
Decrease	59,630.33

Sonneberg.

Baskets and basket ware	1,479.57
Books, stationery, photographs, and paper ware	4,432.59
China, glass, porcelain, stone and earthen ware	340.135.09
Dyes, drugs, chemicals, etc	1,943.10
Fancy goods and toys	466,058.38
Gloves	10,650.26
Ironware, steel, cutlery, etc	6,315.47
Linen, woolen, and cotton goods	367.88
Oil and glass paintings and chromos	100.13
Slates, slate pencils, and lead pencils	9,959.17
Sundries	2,898.65
Wine, brandy, beer, and liquors	7,914.21
Total	852,254.50
Total for same quarter in 1893	1,017,068.88
Decrease	164,814.38

Stuttgart.

Books, stationery, photographs, and paper ware	14,555.48
Corsets	24,663.84
Dyes, drugs, chemicals, etc	37,048.79
Instruments	$5,010.00
Ironware, steel, cutlery, etc	1,113.83
Jewelry and precious stones	1,808.45
Leather, hides, and skins	1,331.16
Linen, woolen, and cotton goods	54,597.61
Music and musical strings and instruments	32,074.28
Prunes, dried fruits, nuts, land produce, etc	24,242.88
Sundries	27,455.17
Wine, brandy, beer, and liquors	1,623.30
Watches, clocks, and watchmen's detectors	1,010.81
Total	226,535.60
Total for same quarter in 1893	263,487.17
Decrease	36,951.57

Weimar.

Books, stationery, photographs, and paper ware	772.64
China, glass, porcelain, stone, and earthen ware	48,161.42
Dyes, drugs, chemicals, etc	586.55
Fancy goods and toys	86,112.43
Gloves	3,698.24
Linen, woolen, and cotton goods	18,224.92
Optical goods	3,396.65
Seeds, plants, etc	2,231.69
Smokers' articles, snuff, cigars, and tobacco	2,354.42
Sundries	5,161.39
Wine, brandy, beer, and liquors	752.30
Watches, clocks, and watchmen's detectors	1,768.87
Total	173,221.52
Total for same quarter in 1893	239,709.72
Decrease	66,488.20

Total from Frankfort and consulates thereunder.

Braids, bindings, trimmings, etc	210,518.05
Baskets and basket ware	49,420.68
Brushes and hair pencils	7,763.22
Bronze powder and leaf metal	109,324.27
Books, stationery, photographs, and paper ware	213,384.05
Buttons and button stuffs, etc	26,670.18
Caps and cartridges	2,631.25
Cement	144,057.14
Clay	14,906.50
China, glass, porcelain, stone, and earthen ware	529,422.25
Corsets	24,663.84
Cologne water	2,775.65
Colored, photographic, and fancy paper	16,620.20
Decalcomania	9,811.50
Dyes, drugs, chemicals, etc	1,315,533.12
Fancy goods and toys	737,456.09

Glass (plate, window, and mirror)	$189,005.45
Gold, silver, and metal paper	14,729.94
Gas-burners, lava gas tips, and brass lamps	4,285.70
Gloves	79,698.18
Hatters' fur	8,799.98
Hatbands and ribbons	268,064.30
Hair, prepared and raw	51,903.92
Hares' hair	26,430.67
Hops	20,621.79
Instruments	25,381.10
Ironware, steel, cutlery, etc	469,657.92
Jewelry and precious stones	61,800.08
Leather, hides, and skins	487,447.45
Leather goods	49,312.68
Leonic ware	5,776.69
Linen, woolen, and cotton goods	320,326.25
Lithographic stones and materials	17,474.94
Machinery	76,619.61
Mineral water	136,034.21
Music and musical strings and instruments	41,773.57
Optical goods	13,585.71
Oil and glass paintings and chromos	63,662.40
Platina wire and platinum	51,793.54
Prunes, dried fruits, nuts, land produce, etc	72,692.33
Pins and needles	36,609.24
Seeds, plants, etc	7,431.12
Slates, slate pencils, and lead pencils	38,303.64
Silk, silk goods, velvets, ribbons and braids, etc	1,066,100.47
Smokers' articles, snuff, cigars, and tobacco	19,091.22
Soaps and perfumery	8,434.81
Statuary and sculpture	8,562.51
Sundries	126,671.90
Steel (manufactured) and Bessemer	11,353.29
Wine, brandy, beer, and liquors	279,346.74
Watches, clocks, and watchmen's detectors	11,731.02
Wool	19,747.60
Tota	7,605,219.96
Total for same quarter in 1893	8,343,323.36
Decrease	738,103.40

GREECE.

[Report by Consul-General Alexander.]

Carpets	24.33
Currants	64,609.15
Olives	485.09
Wine	123.85
All other articles	6,212.30
Total	71,454.72
Total for same quarter in 1893	[*]223,934.77

HONDURAS.

Amapala.

Amalgam of silver	$1,711.75
Coffee	1,078.26
Crude gold	3,011.37
Deerskins	87.50
Gold:	
Bullion	26,212.93
Dust	601.62
Hides	77.50
India rubber	62.50
Postage stamps	257.75
Raw silver	1,611.50
Silver bullion	96,058.81
Total	130,771.49

Ceiba.

Tropical fruits	50,770.23

Puerto Cortez.

Bananas	81,400.00
Boiler tubes	214.00
Bulbs of lilies	100.00
Cocoanuts	28.80
Coffee	33,665.20
Deerskins	5,193.60
Dried insects	20.00
Empty sacks	50.00
Hides	277.65
Hide cuttings	5.30
Palm seeds	100.00
Rubber	3,231.00
Sarsaparilla	14,559.30
Total	138,844.85

Truxillo.

[Returns from Truxillo not received in time for this quarter's report.]

Total from Honduras.

Amalgam of silver	1,711.75
Bananas	81,400.00
Boiler tubes	214.00
Bulbs of lilies	100.00
Cocoanuts	28.80
Coffee	34,743.46
Crude gold	3,011.37
Deerskins	5,281.10
Dried insects	20.00
Empty sacks	50.00
Gold:	
Bullion	26,212.93
Dust	601.62
Hides	355.15
Hide cuttings	5.30
India rubber	62.50

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[*] It will be noticed that the total for the quarter shows a decrease of $152,480.05, as compared with the same quarter in 1893. This is due to the fact that the new tariff law imposes a duty of 1½ cents per pound on currants, which, under the old tariff, were free.

Palm seeds	$100.00
Postage stamps	257.75
Raw silver	1,611.50
Rubber	3,231.00
Sarsaparilla	14,559.30
Silver bullion	96,058.81
Tropical fruits	50,770.23
Total	330,386.57

ITALY.

[Report by Consul-General Jones.]

Castellamare di Stabia.

Artichokes	21.88
Beans	3,995.84
Cheese	11,265.83
Chick-pease	765.25
Filberts	6,869.08
Fruits:	
Dry	649.46
Green (unclassified)*	195,236.07
Garlic	4,178.97
Lentils	905.53
Macaroni	45,723.76
Olive oil	2,652.81
Peppers	56.66
Sundries	19,342.27
Tomato paste	303.34
Walnuts	1,364.48
Wine	341.58
Wood, manufactures	137.58
Total	293,810.39
Total for same quarter in 1893	130,536.81
Increase	163,273.58

Catania.

Almonds	10,062.54
Asphaltum	11,862.49
Brimstone	10,492.25
Canary seed	4,907.34
Filberts	4,993.76
Lemons	33,385.74
Licorice paste	290.53
Total	75,994.65
Total for same quarter in 1893	39,203.15
Increase	36,791.50

Florence.

Alabaster (wrought)	5,503.21
Antiquities	3,765.16
Art, works of	9,111.08
Bees	63.69
Books	390.45
Bronzes	217.10
Copper, manufacture	30.23
Earthenware	1,865.24
Furniture	4,080.60
Glass	$279.22
Hair, cattle	430.68
Hemp (tow)	40,887.30
Household goods	1,546.25
Jewelry	583.60
Majolica	192.10
Marble, statuary	7,280.30
Mosaics	818.41
Olive oil	110.13
Orris root	385.55
Photographs	62.15
Plaster casts	47.80
Porcelain	1,039.73
Sausages	516,57
Seeds	1,155.97
Shell work	18.96
Soap	540.00
Straw:	
Braid	30,421.68
Hats	86,680.00
Unclassified	3,295.85
Wine	3,721.32
Total	205,040.33
Total for same quarter in 1893	254,980.93
Decrease	49,840.60

Genoa.

Castor oil	253.43
Cheese	17,108.07
Filigree	1,203.09
Fish (salted)	3,399.24
Fruits, candied	341.81
Garlic	635.79
Gloves	1,633.98
Glycerin	3,288.60
Gum arabic	527.40
Hair, cattle	378.37
Lemons	3,496.77
Liquors	609.55
Macaroni	8,520.15
Marble, statuary	292.56
Medicines	635.27
Mushrooms	158.30
Olives	11.19
Olive oil	48,228.30
Palms	144.79
Pease	163.22
Peppers	49.40
Pictures	429.24
Plumbago	233.31
Pumice stone	964.52
Rice	5,178.39
Sausages	10.26
Semoule	1,158.30
Silk (raw)	13,205.93
Soap	2,523.01
Sundries	271.13
Talc	337.83
Tomatoes	223.45
Velvets	741.31
Waste	43,555.91

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*Green fruits are classified, except for the districts of Castellamare di Stabia and Naples, under "oranges," "lemons," etc.

Wine	$2,028.28
Whetstones	123.32
Total	162,063.47
Total for same quarter in 1893	247,829.29
Decrease	85,765.82

Leghorn.

Alabaster (unwrought)	2,333.12
Anchovies	44.01
Antimony	1,630.90
Argols	38,788.95
Boracic acid	14,416.39
Brier wood	6,733.87
Cheese	4,807.36
Citron:	
Candied	31,615.29
In brine	138.00
Earth:	
Sienna	728.54
Umber	792.78
Fruits, dry	677.28
Haricot beans	12,424.56
Herbs, dry	1,657.43
Juniper berries	1,435.70
Macaroni	307.18
Marble:	
Blocks	105,288.94
Chippings	2,506.05
Slabs	20,313.81
Tiles	307.58
Statuary	9,678.74
Worked	2,332.03
Olive oil	65,562.06
Olive nuts (ground)	626.96
Orris root	2,635.38
Peanuts	432.91
Pumice stone	3,465.40
Rags	24,933.17
Soap	37,354.32
Soapstock	11,263.56
Sundries	1,923.12
Talc	1,297.92
Wine	949.66
Total	409,402.97
Total for same quarter in 1893	381,925.17
Increase	27,477.80

Messina.

Almonds	14,457.00
Argols	81,176.00
Buttermilk (salted)	107.00
Canary seed	14,380.00
Cheese	666.00
Citron (in brine)	587.00
Essences	40,763.00
Filberts	97,950.00
Hair, cattle	962.00
Lemons	108,080.00
In brine	165.00
Lemon peel	67.00
Lentils	20.00
Lupines	$17.00
Macaroni	157.00
Olives	140.00
Olive oil	30,613.00
Oranges	511.00
Pumace stone	1,218.00
Sulphur oil	1,702.00
Tomato paste	1,347.00
Vinegar	13.00
Wine	290.00
Wine lees	5,090.00
Total	400,478.00
Total for same quarter in 1893	395,636.00
Increase	4,842.00

Milan.

Books	205.31
Buttons	5,040.39
Cheese	7,917.33
China	135.10
Combs	103.57
Dyestuffs	799.32
Furniture	2,309.60
Gloves	38,319.18
Hair, horse	2,476.53
Hatbands	6,207.42
Hemp (yarns)	14,691.73
Household goods	1,239.06
Jewelry	617.60
Liquors	2,368.00
Manna	1,341.83
Marble, statuary	383.30
Medicines	2,688.29
Olives	226.16
Paints	1,395.95
Pictures	222.20
Rice	395.66
Rubber goods	3,123.50
Silk:	
Manufactures	52,680.11
Raw	960,504.44
Waste	31,452.83
Soap	1,000.00
Sumac	2,497.02
Total	1,140,341.43
Total for same quarter in 1893	672,369.85
Increase	467,971.58

Naples.

Almonds	17,359.55
Argols	42,021.59
Bronzes	872.20
Bulbs	1,641.75
Cheese	7,653.62
Cherries	31,716.78
Carob beans	1,235.25
Chick-pease	1,270.00
Cloth, ancient	429.10
Cuttlefish bones	436.14
Filberts	3,440.91
Flags	129.80
Fruits, green (unclassified)*	112,021.54

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*Green fruits are classified, except for the districts of Castellamare di Stabia and Naples, under "oranges," "lemons," etc.

Garlic	$5,734.94
Gloves	15,385.91
Hair, unclassified	4,031.57
Haricot beans	13,860.24
Household goods	163.80
Licorice	6,303.64
Macaroni	1,786.78
Machinery	106.96
Musical instruments	462.60
Musical strings	954.22
Olive oil	8,820.23
Pease	6,120.26
Peppers	897.06
Seeds	14,114.08
Skins	3,595.20
Soap	2,517.51
Sulphur oil	25,028.98
Sundries	38,374.03
Tartar	2,040.97
Terra cotta	95.00
Wine	1,656.74
Wood, manufactures	423.32
Wool	2,254.96
Total	374,957.23
Total for same quarter in 1893	169,741.79
Increase	205,215.44

Palermo.

Almonds	33,877.25
Anchovies	25.00
Artichokes	70.42
Beans	58.82
Brimstone	415,349.03
Canary seed	3,222.28
Cheese	5,143.08
Citrate of lime	10,874.12
Fish:	
In oil	735.38
Salted	675.72
Garlic	928.75
Groceries	870.12
Hemp (yarns)	21.62
Lemons	575,859.51
Essence	174.56
Macaroni	4,973.26
Machinery	125.76
Manna	1,866.70
Olives	339.69
Olive oil	901.25
Oranges	517.43
Orange oil	553.74
Salt	2,707.19
Soap stock	4,565.14
Sumac	40,132.50
Sundries	3.60
Tomato paste	1,271.25
Vinegar	14.63
Wine	1,369.86
Total	1,107,227.66
Total for same quarter in 1893	646,690.00
Increase	460,537.66

Rome.

Alabaster (sculpture)	$772.00
Bronzes	179,87
Carpets	907.10
Cheese	11,970.84
Church goods	114.87
Earth (sienna)	340.36
Furniture	150.54
Jewelry	260.74
Marble, statuary	13,287.51
Mosaics	395.81
Musical instruments	1,994.84
Musical strings	77.81
Paintings	10,257.46
Pictures	926.97
Plaster casts	69.48
Silk, raw	7,447.02
Wood, manufactures	275.50
Total	49,428.72
Total for same quarter in 1893	56,478.57
Decrease	7,049.85

Turin.

Books	201.50
Cheese	875.15
Granite, manufactures of	289.52
Matches	986.02
Plumbago	174.60
Preserves	2,873,17
Sundries	469.70
Talc	1,877.10
Vermuth	44,980.82
Wine	146.29
Total	52,873.87
Total for same quarter in 1893	63,467.22
Decrease	10,593.35

Venice.

Antiquities	1,630.80
Earthenware	1,117.84
Furniture	8,698.76
Gloves	5,051.12
Hemp (tow)	2,825.93
Lace	2,462.93
Linen goods	541.40
Majolica	616.06
Matches	1,043.93
Orris root	132.80
Paintings	1,232.00
Silk manufactures	209.86
Stone (carved)	450.00
Straw plaits	323.00
Sundries	1,931.85
Total	28,268.28
Total for same quarter in 1893	38,656.58
Decrease	10,388.30

Total from Italy.

Alabaster:	
Wrought	5,503.21
Unwrought	2,333.12
Sculpture	772.00

Almonds	$75,756.34
Anchovies	69.01
Antimony	1,630.90
Antiquities	5,395.96
Argols	161,986.54
Art, works of	9,111.08
Artichokes	92.30
Asphaltum	11,862.49
Beans	4,054.66
Bees	63.69
Books	797.26
Boracic acid	14,416.39
Brier wood	6,733.87
Brimstone	425,841.28
Bronzes	1,269.17
Bulbs	1,641.75
Buttons	5,040.39
Buttermilk (salted)	107.00
Canary seed	22,509.62
Carpets	907.10
Castor oil	253.43
Cheese	67,407.28
Cherries	31,716.78
Carob beans	1,235.25
Chick-pease	2,035.25
China	135.10
Church goods	114.87
Citrate of lime	10,874.12
Citron:	
Candied	31,615.29
In brine	725.00
Cloth, ancient	429.10
Combs	103.57
Copper, manufacture	30.23
Cuttlefish bones	436.14
Dyestuffs	799.32
Earthenware	2,983.08
Earth:	
Sienna	1,068.90
Umber	792.78
Essences	40,763.00
Filberts	113,253.75
Filigree	1,203.09
Flags	129.80
Fish:	
In oil	4,134.62
Salted	675.72
Fruits:	
Candied	341.81
Dry	1,326.74
Green (unclassified)*	307,257.61
Furniture	15,239.50
Garlic	11,478.45
Glass	279.22
Gloves	60,390.19
Glycerin	3,288.60
Granite, manufactures of	289.52
Groceries	870.12
Gum arabic	527.40
Hair:	
Cattle	1,771.05
Horse	2,476.53
Unclassified	4,031.57
Haricot beans	$26,284.80
Hatbands	6,207.42
Hemp:	
Tow	43,713.23
Yarns	14,713.35
Herbs, dry	1,657.43
Household goods	2,949.11
Jewelry	1,461.94
Juniper berries	1,435.70
Lace	2,462.93
Lemons	720,822.02
In brine	165.00
Essence	174.56
Lemon peel	67.00
Lentils	925.53
Licorice	6,303.64
Licorice paste	290.53
Linen goods	541.40
Liquors	2,977,55
Lupines	17.00
Macaroni	61,468.13
Machinery	232.72
Majolica	808.16
Manna	3,208.53
Marble:	
Blocks	105,288.94
Chippings	2,506.05
Slabs	20,313.81
Tiles	307.58
Statuary	30,922.41
Worked	2,332.03
Matches	2,029.95
Medicines	3,323.56
Mosaics	1,214.22
Mushrooms	158.30
Musical instruments	2,457.44
Musical strings	1,032.03
Olives	717.04
Olive oil	156,887.78
Oranges	1,028.43
Orange oil	553.74
Olive nuts (ground)	626.96
Orris root	3,153.73
Paintings	11,489.46
Paints	1,395.95
Palms	144.79
Peanuts	432.91
Pease	6,283.48
Peppers	1,003.12
Photographs	62.15
Pictures	1,578.41
Plaster casts	117.28
Plumbago	407.91
Porcelain	1,039.73
Preserves	2,873 17
Pumice stone	5,647.92
Rags	24,933.17
Rice	5,574.05
Rubber goods	3,123.50
Salt	2,707.19
Sausages	526.83
Seeds	15,270.05
Semoule	1,158.30

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*Green fruits are classified, except for the districts of Castellamare di Stabia and Naples, under "oranges," "lemons," etc.

Shell work	$18.96
Silk:	
Manufactures	52,889.97
Raw	981,157.39
Waste	31,452.83
Skins	3,595.20
Soap	43,934.84
Soap stock	15,828.70
Stone (carved)	450.80
Straw:	
Braid	30,421.68
Hats	86,680.00
Plaits	323.00
Unclassified	3,295.85
Sulphur oil	26.730.98
Sumac	42,629.52
Sundries	62,315.70
Talc	3,512.85
Tartar	2,040.97
Terra cotta	95.00
Tomatoes	223.45
Tomato paste	2,921.59
Velvets	741.31
Vermuth	44,980.82
Vinegar	27.63
Walnuts	1,364.48
Waste	43,555.91
Wine	10,503.73
Wine lees	5,090.00
Wood, manufactures	836.40
Wool	2,254.96
Whetstones	123.32
Total	4,299,887.00
Total for same quarter in 1893	3,097,515.36
Increase	1,202,371.64

MEXICO,

CONSULATE-GENERAL OF NUEVO LAREDO AND CONSULATES THEREUNDER.

[Report by Consul-General Donnelly,]

Chihuahua.

Gold and silver bullion	215,053.51
Silver ore	32,264.53
Dry hides	5,410.04
Oranges	5,302.62
Books and merchandise, United States products	499.02
Total	258,529.72

Durango.

Bullion, gold	2,028.44
Ores, silver	25,409.60
Total	27,438.04

Guaymas.

American products returned	1,334.00
Fins, shark	150.00
Hides	900.00
Leather, sole	1,970.00
Ores, silver	$209,660.00
Silver sulphides	48,756.00
Total	262,770.00

Matamoros.

Asphaltum	262.71
Beeswax	185.78
Bones	575.24
Coffee	1,428.66
Furs	36.20
Feathers	5.88
Skins	8,643.88
Hides	5,148.91
Horsehair	1,628.35
Horns	437.08
Live stock	1,290.75
Rope	9.00
Sugar	1,321.00
Wool	1,279.80
Total	22,253.24

Nogales.

Bullion:	
Gold	70,000.00
Silver	22,401.00
Lead	207.00
Copper in bars	2,463.00
Hides, dry	174.00
Ores:	
Copper	1,116.00
Gold	20,635.00
Silver	45,457.00
Pearls	994.00
Total	163,447.00

Nuevo Laredo.

Argentiferous lead	2,187,004.00
American products returned	9,570.67
Bones	424.00
Bristles	500.00
Bullion (gold and silver)	687.01
Cigars	74.55
Coffee	2,007.30
Copper (matte and ore)	63,973.83
Hats, palm and felt	945.36
Hair, horse and cow	4,302.27
Hides, beef	18,032.76
Honey	14.87
Ixtle (fiber)	12,779.70
Oranges	612.00
Opals	350.00
Parrots	2,816.25
Pease	247.45
Pearls	305.00
Pepper	694.68
Sarsaparilla	1,311.90
Seeds	30.00
Sugar	7,654.10
Skins	76,307.39
Wood	548.00
Total	2,391,193.09
Total for same quarter in 1893	1,702,823.32
Increase	688,369.77

Paso del Norte.

American products returned	$749.00
Boots and shoes	181.00
Bullion:	
Gold	508.00
Silver	66,444.00
Lead	353.00
Old gold and silver	2,341.00
Coffee	1,003.00
Feathers, crude	163.00
Hats, straw	115.00
Hides and skins	449.00
Oil cake	258.00
Opals	400.00
Ores	43,767.00
Rice	302.00
Tobacco	350.00
Total	117,383.00

Piedras Negras.

American products returned	1,541.38
Coal and coke	26,647.39
Coffee	167.31
Feathers	687.50
Furs	7.92
Hides	3,910.84
Hair	362.81
Live stock	4,504.23
Ores:	
Silver	29,230.01
Silver and lead	60,402.56
Skins	3,940.62
Total	131,402.57

San Luis Potosi.

Beans	900.55
Bullion:	
Gold	42,885.70
Silver	313,621.43
Lead	25,618.59
Hair, horse	81.72
Ixtle (fiber)	3,045.00
Ores:	
Silver-bearing	174,188.63
Quicksilver	52.90
Pepper (Chile)	3,264.07
Saffron	219.18
Seed (anise)	95.88
Skins	1,434.90
Total	565,408.55

Saltillo.

American products returned	169.00
Bullion:	
Silver	3,339.50
Copper and matte	118,904.73
Hair, horse	6,405.62
Herbs	61.92
Ixtle (fiber)	17,815.00
Silver ores	127,405.78
Skins	18,515.28
Total	292,616.83

Tampico.

American products returned	$2,887.00
Animals, live	255.00
Asphalt	869.00
Birds (parrots)	301.00
Bullion (gold and silver)	3,029.00
Coffee	6,636.00
Hair, horse	63.00
Hides	3,604.00
Honey	14,041.00
Ixtle (fiber)	1,399.00
Onyx, etc	204.00
Ores:	
Iron	273.00
Copper matte	3,081.00
Plumes	166.00
Fruits (lemons)	51.00
Rubber	103.00
Sarsaparilla	11,005.00
Skins	6,718.00
Woods:	
Cedar	3,096.00
Fustic	4,332.00
Total	62,013.00

Tuxpan.

Fruits	66.15
Chicle (gum)	13,037.44
Honey	6,313.44
Hides	1,242.62
Rubber	2,265.41
Sarsaparilla	2,839.12
Skins	2,258.18
Vanilla	7,582.25
Wax, bees	202.22
Woods:	
Cedar and mahogany	12,653.60
Fustic (dyewood)	5,301.26
Total	54,061.69

Total from Nuevo Laredo and consulates thereunder.

American products returned	16,750.07
Animals, live	6,049.98
Argentiferous lead	2,273,585.15
Asphalt	1,131.71
Beans and pease	1,148.00
Birds (parrots)	3,117.25
Bones	999.24
Boots and shoes	181.00
Bristles	500.00
Bullion:	
Gold	335,845.65
Silver	406,482.94
Chicle (chewing gum)	13,037.44
Cigars	74.55
Coal and coke	26,647.39
Coffee	11,142.27
Copper bullion and matte	188,422.56
Feathers	856.38
Fins, shark	150.00
Furs	44.12
Fruits	6,031.77

Hats, felt and palm	$1,060.36
Herbs	61.92
Hair, horse and cow	12,843.77
Hides	38,872.17
Honey	20,369.31
Horns	437.08
Ixtle (fiber)	35,038.70
Leather, sole	1,970.00
Oil cake	258.00
Onyx	204.00
Opals	750.00
Ores:	
Gold	20,635.00
Silver	687,382.55
Copper	1,116.00
Iron	273.00
Pearls	1,299.00
Pepper (Chile)	3,958.75
Plumes	166.00
Rice	302.00
Rope	9.00
Rubber	2,368.41
Saffron	219.18
Sarsaparilla	15,156.02
Seeds	125.88
Silver sulphides	48,818.90
Skins	117,818.25
Sugar, crude	8,975.10
Tobacco	350.00
Vanilla	7,882.25
Wax (bees)	388.00
Woods:	
Cedar and mahogany	16,297.60
Fustic (dyewood)	9,633.26
Wool	1,279.80
Total	4,348,516.73

NETHERLANDS.

[Report by Consul Downes.]

Amsterdam.

Aniline colors	897.08
Antiquities	3,446.36
Arrack, brandy, etc	675 40
Beans	323.40
Bitumen	719.04
Books	1,015.31
Bulbs	45,849.14
Canary seed	2.626.92
Caraway seed	28,398.92
Carpets (Deventer Smyrna)	185.14
Cassia vera	1,179.40
Cauliflower in brine	2,434.54
Cheese	20,840.50
Cinchona bark	8,799.57
Cloves	1,090.79
Cocoa	60,763.89
Cocoa beans	14,472.26
Cocoa butter	37,996.18
Coffee	161,249.63
Cotton tares	756.48
Cubebs	143.80
Diamonds	862,060.69
Garden seeds	3,856.10
Gin	$1,687.52
Goatskins	30,124.78
Gums	537.27
Hams	926.70
Herrings	1,360.00
Household goods (emigrants')	7,228.00
Indigo	8,357.30
Jute	2,607.95
Liqueurs	6,441.01
Lizard skins	702.55
Mace	2,923.22
Madder	1,807.31
Matches	1,353.12
Metallic capsules	1,617.04
Nutmegs	60,322.59
Oil (Haarlem, etc.)	4,252.48
Onions in brine	252.50
Paintings	4,473.00
Paper	931.22
Pepper	13,990.89
Plate glass	23,813.49
Rags	284.52
Rice	42,032.14
Rose leaves	280.00
Sardelles	1,367.87
Sauerkraut	366.70
Straw boards	2,576.84
Sugar (refined and beet root)	173,143.30
Swan skins	174.18
Tea	234.70
Tiles	432.75
Tin (Banka and Straits)	141,643.09
Tobacco (Sumatra, 9,102 bales)	1,954,960.52
Turf litter (peat moss)	6,131.14
Sundries	1,540.22
Total	3,760,658.45
Total for same quarter in 1893	1,551,110.10
Increase	2,209,548.35

Rotterdam (including Schiedam).

Antiquities	1,390.50
Arrack, brandy, etc	250.84
Bagging	6,543.66
Balances	916.52
Bleaching powder	2,184.92
Books	314.80
Bulbs	202,070.45
Candle pitch	1,333.11
Carboleum	1,138.40
Cheese	20,548.37
Church symbols	998.01
Coffee	169,772.45
Earthenware	6,196.22
Empty grain bags	543.80
Flax and tow	11,396.07
Garden seeds	622.47
Gin	21,486.85
Glauber's salt	206.93
Herrings	279,064.74
Household goods (emigrants')	3,395.69
Human hair	2,053.02
Hyposulphate of soda	664.58
Indigo	4,250.00

Madder	$2,730.25
Matches	2,510.34
Mineral water	4,901.28
Nutmegs	7,641.68
Oil (Haarlem, etc.)	4,601.88
Paintings	5,169.60
Pepper	2,930.22
Pipes	403.60
Potatoes	168.88
Rags	18,520.48
Roots and herbs	363.70
Shells	3,219.20
Silverware	11,694.37
Skins and hides	608.00
Straw covers	992.30
Sugar (refined and beet root)	9,120.20
Tea	665.10
Tin (Banka and Straits)	7,413.88
Tobacco (Sumatra, 168 bales)	26,968.67
Turf litter (peat moss)	4,729.38
Vegetables in brine	3,012.70
Sundries	733.55
Total	856,441.66
Total for same quarter in 1893	661,108.69
Increase	195,332.97

Total from Netherlands.

Aniline colors	897.08
Antiquities	4,836.86
Arrack, brandy, etc	926.24
Bagging	6,543.66
Balances	916.52
Beans	323.40
Bitumen	719.04
Bleaching powder	2,184.92
Books	1,330.11
Bulbs	247,919.59
Canary seed	2,626.92
Candle pitch	1,333.11
Caraway seed	28,398.92
Carboleum	1,138.40
Carpets (Deventer Smyrna)	185.14
Cassia vera.	1,179.40
Cauliflower in brine	2,434.54
Cheese	41,388.87
Church symbols	998.01
Cinchona bark	8,799.57
Cloves	1,090.79
Cocoa	60,763.87
Cocoa beans	14,472.26
Cocoa butter	37,996.18
Coffee	331,022.08
Cotton tares	756.48
Cubebs	143.80
Diamonds	862,060.69
Earthenware	6,196.22
Empty grain bags	543.80
Flax and tow	11,396.07
Garden seeds	4,478.57
Gin	23,174.37
Glauber's salt	206.93
Goatskins	30,324.78
Gums	537.27
Hams	906.70
Herrings	$280,424.74
Household goods (emigrants')	10,623.69
Human hair	2,053.02
Hyposulphate of soda	664.58
Indigo	12,607.30
Jute	2,607.95
Liqueurs	6,441.01
Lizard skins	702.55
Mace	2,923.22
Madder	4,537.56
Matches	3,863.46
Metallic capsules	1,617.04
Mineral water	4,901.28
Nutmegs	67,964.27
Oil (Haarlem, etc.)	8,854.36
Onions in brine	252.50
Paintings	9,642.60
Paper	931.22
Pepper	16,921.11
Pipes	403.60
Plate glass	23,813.49
Potatoes	168.88
Rags	18,805.00
Rice	42,032.14
Roots and herbs	363.70
Rose leaves	280.00
Sardelles	1,367.87
Shells	3,219.20
Silverware	11,694.37
Skins and hides	608.00
Sauerkraut	366.70
Straw boards	2,576.84
Straw covers	992.30
Sugar (refined and beet root)	182,263.50
Swan skins	174.18
Tea	899.80
Tiles	432.75
Tin (Banka and Straits)	149,056.97
Tobacco (Sumatra, 9,270 bales)	1,981,929.19
Turf litter (peat moss)	10,860.52
Vegetables in brine	3,012.70
Sundries	2,273.77
Total	4,617,100.11
Total for same quarter in 1893	2,212,218.79
Increase	2,404,881.32

NEW ZEALAND.

[Report by Consul Connolly.]

Auckland.

Flax fiber	9,241.26
Ferns	73.77
Fruit trees	53.65
Gum (kauri)	245,789.71
Hides	29.16
Pelts (sheep)	574.65
Plants	54.50
Sheepskins	52,607.50
Rabbit skins	17,910.00
Grass seed	2,748.07
Total	329,082.27

RUSSIA.

[Report by Consul-General Jonas.]

Abo.

Books	$128.94

Batoum.

Licorice root	110,440.46
Manganese ore	101,541.83
Wool	39,505.60
Total	251,487.89

Helsingfors.

Books	169.98

Libau.

Goatskins	5,328.60
Lambskins	345.95
Matches (safety)	285.12
Metal capsules	49.50
Total	6,009.17

Moscow.

Camels' hair	140,152.83
Goatskins	10,988.37
Horse manes	5,254.48
Papier-maché articles	520.29
Silver articles	305.17
Sundries	613.75
Wool	90,617.27
Woolen shawls	7,354.23
Total	255,806.39

Odessa.

Cigarette paper	126.45
Goatskins	4,840.19
Wool	679.34
Total	5,645.98

Riga.

Books	3,615.86
Goatskins	3,465.84
Hemp	1,994.20
Liquors	281.37
Rubber waste	886.04
Total	10,243.31

Rostoff.

Wool	159,956.56

St. Petersburg.

Albumen of blood	3,487.50
Boltropes	4,093.35
Brandy (cumin)	140.75
Bristles	55,752.62
Bronze articles	$3,023.38
Church articles	404.00
Cottage industries	354.66
Dressed leather	378.00
Flax	62,689.19
Furs	2,604.37
Goatskins	66,988.55
Isinglass	1,071.67
Madder	200.00
Mats	686.60
Oakum	10,013.60
Platinum	14,935.00
Sheet iron	10,467.63
Silver articles	1,955.72
Sundries	145.69
Tow	1,763.71
Total	241,155.99

Warsaw.

Books	319.20
Dressed leather	148.00
Furs	75.88
Total	543.08

Total from Russia.

Albumen of blood	3,487.50
Boltropes	4,093.35
Books	4,233.98
Brandy (cumin)	140.75
Bristles	55,752.62
Bronze articles	3,023.38
Camels' hair	140,152.83
Church articles	404.00
Cigarette paper	126.45
Cottage industries	354.66
Dressed leather	526.00
Flax	62,689.19
Furs	2,680.25
Goatskins	91,611.55
Hemp	1,994.20
Horse manes	5,254.48
Isinglass	1,071.67
Lambskins	345.95
Licorice root	110,440.46
Liquors	281.37
Madder	200.00
Manganese ore	101,541.83
Mats	686.60
Matches (safety)	285.12
Metal capsules	49.50
Oakum	10,013.60
Papier-maché articles	520.29
Platinum	14,935.00
Rubber waste	886.04
Sheet iron	10,467.63
Silver articles	2,260.89
Sundries	759.44
Tow	1,763.71
Wool	290,758.77
Woolen shawls	7,354.23
Total	931,147.29

SWEDEN AND NORWAY.

[Report by Consul O'Neil.]

Arendal.

Miscellaneous articles	$33.28

Bergen.

Anchovies	4,589.25
Books	114.70
Cheese	295.12
Cod oil	35,201.90
Cranberries	79.20
Fish (dried, etc.)	46,920.44
Furs	426.18
Herrings	13,197.45
Mackerel	16,581.32
Preserves	81.87
Sprats	1,386.55
Total	118,873.98
Total for same quarter in 1893	82,733.81
Increase	36,140.17

Christiania.

Acids	2,069.34
Anchovies	340.33
Beer	301.41
Books	2,426.60
Currants	434.30
Cheese	343.82
Cod oil	10,070.49
Herrings	1,733.44
Mackerel	19,196.79
Matches	1,350.04
Mica	139.11
Miscellaneous	7,694.85
Pulp (wood)	40,840.18
Ropes	1,153.26
Total	88,093.96
Total for same quarter in 1893	190,682.10
Decrease	102,588.14

Christiansand.

Mackerel	22,877.42
Total for same quarter in 1893	48,683.12
Decrease	25,805.70

Drontheim.

Furs	271.85
Pulp (wood)	6,930.59
Spirits	442.05
Total	7,644.49
Total for same quarter in 1893	13,945.03
Decrease	6,300.54

Gothenburg.

Anchovies	2,110.24
Books	241.45
Cranberries	1,161.30
Cutlery	499.95
Fish (dried, etc.)	47.36
Glassware	459.98
Iron	$68,523.79
Matches	44,306.43
Miscellaneous	224.10
Paintings	9,954.09
Pulp (wood)	5,070.79
Punch	482.40
Steel	920.25
Telephones	80.09
Total	134,082.22
Total for same quarter in 1893	217,105.34
Decrease	83,023.12

Malmo.

Matches	328.49

Stavanger.

Anchovies	3,530.92
Cheese	901.88
Herrings	8,210.85
Mackerel	91,707.62
Nautical instruments	1,396.13
Preserves	1,982.50
Sardines	2,732.26
Sprats	1,872.70
Total	112,334.86
Total for same quarter in 1893	136,424.24

Stockholm.

Currants	9,498.82
Iron-wire rods	119,495.03
Mackerel	31,018.63
Miscellaneous	13,948.56
Nail rods	54,815.73
Parts of machines	7,544.75
Steel	22,345.38
Total	258,666.90
Total for same quarter in 1893	218,479.35

Total from Sweden and Norway.

Acids	2,069.34
Anchovies	10,570.74
Beer	301.41
Books	2,782.75
Currants	9,933.12
Cheese	1,540.82
Cod oil	45,272.39
Cranberries	1,240.50
Cutlery	499.95
Fish (dried, etc.)	46,967.80
Furs	698.03
Glassware	459.98
Herrings	23,141.74
Iron	68,523.79
Iron-wire rods	119,495.03
Mackerel	181,381.78
Matches	45,984.96
Mica	139.11
Miscellaneous	21,900.79
Nautical instruments	1,396.13
Nail rods	54,815.73
Paintings	9,954.09
Parts of machines	7,544.75
Preserves	2,064.37

Pulp (wood)	$52,841.56
Punch	482.40
Ropes	1,153.26
Sardines	2,732.26
Sprats	3,259.25
Spirits	442.05
Steel	23,265.63
Telephones	80.09
Total	742,935.60

SWITZERLAND.

[Report by Consul-General Richman.]

Basle.

Absinthe	10,809.50
Aniline colors	97,767.66
Argols	1,255.96
Asphalt	20,214.90
Books	333.38
Cheese	12,569.83
Chocolate	2,646.28
Dyestuffs and chemicals	45,745.64
Hides, salted	6,540.00
Ribbons, silk and mixed	304,485.00
Silk, spun waste	25,498.70
Sundries	342.77
Underwear, knit goods, etc	4,960.91
Watches and watch material	195,230.75
Wine and spirits	354.02
Total	728,755.30
Total for same quarter in 1893	672,826.84
Increase	55,928.46

Berne.

Cheese	195,081.51
Condensed milk	387.35
Silk tissues	20,126.66
Straw goods	5,291.10
Sundries	3,653.63
Underwear, knit goods, etc	18,814.49
Watches and watch material	107.12
Wood carvings	2,073.48
Total	245,540.59
Total for same quarter in 1893	242,065.48
Increase	3,475.11

Geneva.

Aniline colors	369.39
Condensed milk	5,908.31
Hardware	6,214.06
Household goods	16,227.54
Leather	4,356.65
Marble	449.28
Musical boxes	16,621.57
Pharmaceutical preparations	402.69
Scientific instruments	1,101.95
Watches and watch material	22,872.45
Total	74,523.89
Total for same quarter in 1893	182,055.39
Decrease	107,531.50

Horgen.

Cheese	$4,800.06
Church articles	6,611.71
Condensed milk	19,695.65
Cotton cloth	277.50
Silk and half-silk piece goods	272,625.30
Silk, spun	775.82
Sundries	828.77
Total	305,614.81
Total for same quarter in 1893	302,366.84
Increase	3,247.97

St. Gall.

Church articles	662.96
Cotton cloth	9,028.77
Cotton embroideries	748,238.52
Curtains	419,605.95
Dresses, aprons, handkerchiefs, ties, and other fancy articles	337,076.62
Laces	64,977.00
Machines and parts thereof	2,973.55
Postage stamps (used)	857.51
Silk embroideries	23,966.60
Silk and half-silk piece goods	16,340.26
Sundries	50.05
Toggenburg articles	1,098.19
Total	1,624,875.98
Total for same quarter in 1893	1,345,968.33
Increase	278,907.65

Zurich.

Beef extract	5,291.75
Candles	311.93
Cheese	10,413.19
Cotton cloth	2,020.11
Cotton embroideries	418.33
Elastics	994.70
Gelatin	474.20
Grease	491.80
Photographs	387.93
Ribbons, silk and mixed	10,412.39
Silk bolting cloth	52,264.97
Silk embroideries	423.00
Silk, spun waste	501,340.70
Silk, spun	5,382.05
Scientific instruments	2,231.36
Straw goods	49,977.48
Sundries	382.65
Underwear, knit goods, etc	48,858.42
Velvets	6,154.77
Wine and spirits	126.22
Woolen piece goods	628.65
Woolen yarn	460.02
Total	699,446.62
Total for same quarter in 1893	791,436.28
Decrease	91,989.66

Total from Switzerland.

Absinthe	10,809.50
Aniline colors	98,137.05
Argols	1,255.96
Asphalt	20,214.90
Beef extract	5,291.75

Books	$333.38
Candles	311.93
Cheese	222,864.59
Chocolate	2,646.28
Church articles	7,274.67
Condensed milk	25,991.31
Cotton cloth	11,326.38
Cotton embroideries	748,656.85
Curtains	419,605.95
Dresses, aprons, handkerchiefs, ties, and other fancy articles	337,076.62
Dyestuffs and chemicals	45,745.64
Elastics	994.70
Gelatin	474.20
Grease	491.80
Hardware	6,214.06
Household goods	16,227.54
Hides, salted	6,540.00
Laces	64,977.00
Leather	4,356.65
Marble	449.28
Machines and parts thereof	2,973.55
Musical boxes	16,621.57
Pharmaceutical preparations	402.69
Photographs	$387.93
Postage stamps (used)	857.51
Ribbons, silk and mixed	314,897.39
Silk bolting cloth	52,264.97
Silk embroideries	24,389.60
Silk and half-silk piece goods	288,965.56
Silk, spun waste	526,839.40
Silk, spun	6,157.87
Silk tissues	20,126.66
Scientific instruments	3,333.31
Straw goods	55,268.58
Sundries	5,257.87
Toggenburg articles	1,098.19
Underwear, knit goods, etc	72,633.82
Velvets	6,154.77
Watches and watch material	218,210.32
Wine and spirits	480.24
Wood carvings	2,078.73
Woolen piece goods	628.65
Woolen yarn	460.02
Total	3,678,757.19
Total for same quarter in 1895	3,536,719.16
Increase	142,038.03

BRITISH INDIA.

[Report by Consul-General Polk.]

Bombay.

Art ware (brass, copper, and silver)	392.46
Carpets	2,407.93
Condiments	480.20
Curios	385.40
Dry goods	1,383.29
Fats (perfumed and pomades)	553.83
Furniture	605.17
Mother-of-pearl shells	1,361.00
Oil	1,027.40
Seeds, other than linseed	999.04
Miscellaneous	167.81
Returned American goods	723.30
Total	10,486.83

Calcutta.

Carpets	$727.00
Drugs	186,418.75
Gunny:	
Bags	41,996.25
Cloth	551,911.50
Hides	37,427.32
Jute	106,757.75
Jute butts and rejections	36,819.25
Linseed	20,693.25
Mica	18,568.00
Rice	616.75
Rubber	9,615.45
Saltpeter	35,504.20
Silk (raw)	399.25
Skins	484,488.60
Tea	10,876.50
Miscellaneous	598.50
Total	1,543,418.32

Madras.

Carpets	73.00
Drugs	1,392.00
Skins	718,014.50
Sugar (jaggery)	102,152.59
Total	821,632.09

Rangoon.

Drugs	626.00
Rice	28,815.25
Rubber	742.00
Total	30,183.25

Total from British India.

Art ware (brass, copper, and silver)	392.46
Carpets	3,207.93
Condiments	480.20
Curios	385.40
Dry goods	1,383.29
Drugs	188,436.75
Fats (perfumed and pomades)	553.83
Furniture	605.17
Gunny:	
Bags	41,996.25
Cloth	551,911.50
Hides	37,427.32
Jute	106,757.75
Jute butts and rejections	36,819.25
Linseed	20,693.25
Mica	18,568.00
Mother-of-pearl shells	1,361.00
Oil	1,027.40
Rice	29,432.00
Rubber	10,357.45
Saltpeter	35,504.20
Silk (raw)	399.25
Skins	1,202,503.10
Seeds, other than linseed	999.04
Sugar (jaggery)	102,152.59
Tea	10,876.50
Miscellaneous	766.31
Returned American goods	723.30
Total	2,405,720.49

VEGETABLE PARCHMENT PAPER.

At the request of persons interested in the trade, a circular dated May 9, 1894, was transmitted to the principal consulates in Austria-Hungary, Belgium, France, Germany, and the Netherlands, relative to the manufacture and export to the United States of vegetable parchment paper in the several districts. The particular points covered by the circular were: The market price of the paper in the several districts; transportation rates from places of manufacture to seaports; invoice prices of paper shipped to the United States from places of manufacture; principal ports of shipment and distribution; quantities shipped to the United States, etc.

The reports printed herewith are replies to this circular.

The consuls at the following places reported that no vegetable parchment paper was manufactured in their districts:

France.—Havre and St. Etienne.

Germany.—Annaberg, Berlin, Bremen, Dresden, Freiburg, Fürth, Hamburg, Nuremberg, and Weimar.

Netherlands.—Amsterdam.

AUSTRIA-HUNGARY.

Two general kinds or classes of vegetable parchment paper are known in commerce—"genuine" and "imitation." The genuine is made of cotton rags, waste, or raw fiber, sulphuric acid being used in the process of its manufacture. Parchment paper of this class is principally used for filtration in the manufacture of sugar, the refining of gutta-percha, and for bookbinding, drawing, etc. Imitation parchment paper is made from cellulose or wood pulp, and is not treated with sulphuric acid. It is manufactured almost exclusively in Germany. It is used for wrapping butter, meat, and oleaginous materials generally.

The following answers to the questions submitted relate only to genuine vegetable parchment paper, which is manufactured at three *fabriks* in Austria-Hungary. The oldest of these *fabriks*—one of the first of its kind established in Europe—is that of Albert Eckstein, established in 1860, at Vienna; the second is that of Schlüter & Co., at Prague, which was founded in 1889; the third, Gebrüder Müller, was founded in 1892 at Budapest.

The factory at Prague produces mainly the cheaper and more ordinary qualities, such as are used for waterproof and damp-proof wrapping and packing material for various kinds of merchandise.

The works of Albert Eckstein, at Vienna, manufacture almost exclusively the finer and more costly qualities. They include osmogene and dializing parchment paper, tracing and drawing parchment paper, double and triple parchment paper for bookbinding and for surgical and other purposes Some of the qualities are parchmentized on one side only and some on both sides. These goods have so far been exported only in small quantities from Vienna to the United States. The present market values of vegetable parchment paper in Vienna are as follows, per kilogram (2.2046 pounds): Ordinary quality for wrapping, 22.3 cents; for wrapping butter, 32.4 cents; osmogene or dializing parchment, 44.64 cents; drawing or tracing parchment, 52.88 cents. Freight on parchment paper from Vienna to Hamburg costs $1.66 to $1.90 per 224 pounds.

The principal port of shipment for these Vienna goods is Hamburg.

Invoice prices at Vienna are the same as given in "market values."

The principal places of shipment of parchment paper are Vienna, Prague, and Budapest.

The principal ports of destination in the United States are New York, Boston, and Chicago.

It is impossible to obtain reliable information relative to the number of pounds of parchment paper exported from Austria to the United States, as the weight is not always given in the invoices.

Some shipments have been made to Chicago by rail from New York, but none have been sent via the great lakes direct by water to Chicago.

DEAN B. MASON,
Vice-Consul-General.

VIENNA, *June 7, 1894.*

There is only one vegetable parchment paper factory in the whole of Bohemia, the Prager Pergament Papier Fabrik, situated in Holeshowic, a suburban town near Prague. This factory is operated by the firm of Schlüter & Co., and employs, on an average, fifty hands. Its yearly output is between 500 and 600 tons, which is mainly shipped to England, the United States, Russia, Spain, Denmark, etc. The amount shipped from here to the United States during the last four years was 490 tons, valued at 220,612 florins.* The raw stuff (unglued cotton paper) from which the vegetable parchment paper is prepared, which can be manufactured by any paper factory, must be made from the best cotton rags, and go through the following process: The paper passes through a bath of sulphuric acid, and subsequently through repeated baths of running water; then through a soda bath to neutralize the acid; then, again, through clear water two or three times; being finally drawn over large cylinders, on which it dries. After it has left the cylinders and passed a couple of glazing rollers (calenders), it is wound up on wooden bars and is fit for handling. It is then cut and adjusted, as required by the trade.

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* The silver florin was the Austrian money unit up to July 1, 1892, about which date the gold crown became the unit. In a table (CONSULAR REPORTS No. 168, p. 141) showing the wages paid in Austrian hemp mills, the florin is valued (July 23, 1894) at 40.6 cents.

The moment the raw stuff runs through the acid bath, the conversion into parchment is really and substantially effected.

The preparation of the acid liquid through which it must pass, and which gives it the parchment peculiarity, is a secret which the manufacturer does not like to disclose. The rest of the manipulation, and labor connected therewith, are only of secondary importance.

The market price of vegetable parchment paper, for ordinary qualities for export, averages about $9.30 per 100 pounds.

The transportation rates per ton from Prague to Hamburg by rail is $7.80, and by water, $6.10; from Prague to Rotterdam by rail, $10.80 per ton. The principal seaports from which this paper is shipped are Hamburg and Rotterdam.

The invoice prices of vegetable parchment paper shipped to the United States vary, ranging from 8 to 10 cents per pound, or higher, according to the quality of paper—freight, insurance, and packing to be added.

This paper is principally shipped to New York, Boston, Philadelphia, Chicago, and St. Louis.

No shipments from here are made via the great lakes.

JOHN KAREL,
Consul.

PRAGUE, *June 20, 1894.*

BELGIUM.

The following are the only persons and firms engaged in the manufacture of vegetable parchment paper in the consular district of Brussels: F. Delcroix, Baulers, Hainaut; Messrs. De Broux & Co., Noirhat, Brabant; Union des Papeteries, 9 rue d'Arenberg, Brussels. About 1,322 tons of parchment paper are annually manufactured by the above-named firms, two-thirds of which are used exclusively for wrapping oily and sweet substances and one-third for industrial purposes.

Parchment paper for packing purposes varies in price, according to quality, from 10 to 11 cents per pound; paper for sugar refineries, 68 cents per kilogram (2.2046 pounds); paper for woolen and other mills, from 29 to 39 cents per kilogram, according to quality and thickness; imitation leather and oil cloth, from 24 to 34 cents per kilogram.

The cost of transportation from factories to Antwerp, putting on board ship, and all other incidental charges included, is from 15 to 20 cents per 100 kilograms (220.46 pounds).

Antwerp is the principal seaport for shipments from this consular district. As most of the parchment paper manufactured in Belgium is sold to English and German houses, only a small percentage is shipped direct from here to the United States.

Invoice prices of vegetable parchment paper exported to the United States from this consular district were, from January 1, 1890, to June 15, 1894, as follows, the amount exported being 12,093 pounds, 26,499½ pounds, 19,745 pounds, 70,270 pounds, and 18,344 pounds for 1890, 1891, 1892, 1893, and the first six months of 1894, respectively:

Description.	Price.
1890.	
Rolls:	
20 yds. by 39½ in..........per roll...	$0.43 to $1.76
20 yds. by 43 in..................do......	.43
44 yds. by 54 in..................do......	.77
22 yds. by 54 in..................do......	.39
10 yds..............................do......	.53
Quires:	
20 by 30 in..................per quire...	.19 to .35
20 by 52 in.........................do......	.20
40 by 30 in.........................do......	1.06
Kilograms:	
29 yds. by 40 in......per kilogram...	.34
1891.	
Rolls:	
20 yds. by 39½ in...........per roll...	.70 to 1.76
20 yds. by 43½ in..............do......	.54
10 yds. by 39½ in..............do......	.62
36 by 48 in.................per pound...	.25
Quires:	
20 by 30½ in...............per quire...	.35
1 yd. 28 in. by 30½ in.........do.....	.70
Kilograms:	
19 by 24 in.............per kilogram...	.41
22 by 31 in.........................do......	.31
22½ by 34½ in...................do......	.31
26 by 4¼ in... ....do......	.66
1 yd. 40 in. by 1 yd. 28 in...do......	.29
1892.	
Rolls:	
20 yds. by 39½ in...........per roll...	.53 to 1.64
50 yds. by 59 in......per kilogram...	.37
20 yds. by 1 yd. 32 in.....per roll...	.58
20 by 30 in.........................do......	.35
10 yds. by 39½ in...............do......	.62
Kilograms:	
1 yd. 49½ in. by 1 yd. 30½ in., per kilogram............................	.29
26¼ by 20 in.........per kilogram...	.43 to .66
36 by 22 in. ....do......	.35 to .37
1892—Continued.	
Kilograms—Continued.	
19¾ by 25½ in......per kilogram...	$0.42 to $0.68
21 by 31 in.........................do......	.68
22 by 34 in.........................do......	.39
24 by 36 in.........................do......	.75
10 by 14 in.........................do......	.75
8 by 10 in...........................do......	.75
Reams:	
17¼ by 22¼ in..........per ream...	.70
17¼ by 28¼ in.................do......	.90
26¾ by 20½ in.................do......	.99
20¼ by 30¾ in.................do......	.35
1 yd. 29 in. by 30¾ in.......do......	.69
1893.	
Rolls:	
20 yds. by 39½ in...... ..per roll...	1.24
21 yds. by 42 in.................do......	1.45
Quires:	
20 by 30 in.................per quire...	.26
40 by 30 in.........................do......	.52
Kilograms:	
36 by 24 in............per kilogram...	.15
32½ by 36 in.....................do......	.19
20 by 36 in.........................do......	.15
9 by 16 in...........................do......	.15 to .19
20 by 26 in.........................do......	.38
22 by 34 in.........................do......	.28
19¾ by 25¾ in.................do......	.38
28½ by 17¼ in.................do......	.17
1894.	
Rolls:	
20 yds. by 39¼ in.........per roll...	1.23
20 yds. by 39½ in..............do......	.39 to 1.25
Kilograms:	
1 yd. 29¾ in. by 1 yd. 55½ in., per kilogram............................	.29
Other parchment paper..........do......	.24 to .39

The principal port of shipment is Antwerp, and the principal ports of destination are New York, Chicago, and St. Louis.

The total quantity of vegetable parchment paper shipped to the United States from this consular district from January 1, 1890, to June 15, 1894, amounted to 142,951¾ pounds.

Chicago is the only American port on the great lakes to which shipments of said merchandise have been made from this district. The quantity shipped to that port from January 1, 1890, to June 15, 1894, from Brussels, via Antwerp, was 1,132 pounds.

The import duty on vegetable parchment paper coming into Belgium is 77 cents per 220 pounds.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *June 22, 1894.*

Vegetable parchment paper is not manufactured in the consular district of Ghent. Two paper factories are situated at Ghent. Their entire product consists of paper for wrapping purposes and newspapers. The raw materials used are straw and rags. I am informed that the only manufacturers of vegetable parchment paper in Belgium are: The Union des Papeteries, rue d'Arenberg, Brussels; Mr. Delcroix, Baulers (Nivelles), Brabant; Messrs. De Broux et Cie., at Noirhat, Brabant. All these houses are located outside of this district.

The average market price of vegetable parchment paper at Ghent is $10.70 per 100 pounds. German vegetable parchment paper sells the cheapest, and is preferred. The quantity of all kinds sold here is very small.

Antwerp is the natural port of shipment. The price of transportation from Ghent by boat varies from 5 to 8 cents per 100 pounds; by railway, from 10 to 12 cents.

There never has been any shipment of vegetable parchment paper from this consular district to any port in the United States.

HENRY C. MORRIS,
Consul.

GHENT, *May 24, 1894.*

There is no manufacturer or exporter of vegetable parchment paper in this district (Liege). There is, however, a maker of imitation vegetable parchment paper at Huy, near Liege, who sends a large part of his product to the United States. This gentleman gives, as the market price of his paper, 12 cents per pound. The transportation rate to the seaboard is 11 cents per 100 pounds. The principal port of shipment is Antwerp, and the principal port of destination is New York.

Shipments to the United States during the last four years amounted to 25 tons. No shipments were made to lake ports.

There are several varieties of imitation parchment paper known to the Belgian trade (parchment, papyrine, and Japanese and Egyptian paper), some of which are manufactured by hand and some by machinery. Among them there are those which receive special treatment by being sulphurized or gelatinized, but these differ from the others only in the methods of fabrication.

NICHOLAS SMITH,
Consul.

LIEGE, *June 20, 1894.*

GERMANY.

There is but one manufactory of vegetable parchment paper in the district of Aix la Chapelle. The price of the product runs from 9½ to 10 cents per pound. The transportation rates from the factory to the seaport average $2.50 per ton.

The principal seaport of shipment is Rotterdam.

Invoice prices of vegetable parchment paper shipped to United States ports from the principal center of manufacture are from 9½ to 10 cents per pound. The principal port of shipment is Jülich. The principal ports of destination are New York and Chicago.

The shipments to the United States for the past four years amounted to 25 tons. The shipments to Chicago (20½ tons) have been via New York in bond.

W. C. EMMET,
Consul.

AIX LA CHAPELLE, *May 26, 1893.*

The price for all vegetable parchment paper weighing above 40 grams per square meter (39.37 square inches), is $18.10 per 100 kilograms (220.46 pounds) at factory. The lightest vegetable parchment paper manufactured here (Cologne) weighs about 42 grams per square meter.

The freight rate to Rotterdam, the principal port of shipment, is about 24 cents per 220.46 pounds.

There has been very little vegetable parchment paper shipped from this district to the United States. The invoice price of the last shipment was $18.81 per 100 kilograms (220.46 pounds), with 2 per cent discount.

During the past four years, there were 26,200 pounds of vegetable parchment paper exported from this district to the United States. No shipments have been made via the great lakes.

I am indebted to F. Wippermann, at Stotzheim-by-Euskirchen, Prussia, a manufacturer and exporter of vegetable parchment paper, for most of the information contained in this report.

WM. D. WAMER,
Consul.

COLOGNE, *May 28, 1894.*

In response to the Department's inquiries relative to vegetable parchment paper, I have the honor to report the following answers, given by the director of a factory in Neuss, the only place where such paper is made in the Crefeld district:

The market price in Germany of vegetable parchment paper ranges from 90 pfennigs to 1 mark (21.4 cents to 23.8 cents) per kilogram (2.204 pounds).

This price is higher than that asked in the United States, owing to an agreement among the German manufacturers to keep the paper at an advanced and uniform rate.

To Antwerp from Neuss by Rhine freight boats, paper may be shipped at 80 pfennigs per 100 kilograms (18.7 cents per 220 pounds), and to Rotterdam from Neuss by Rhine boats the freight rate is 70 pfennigs per 100 kilograms (16.6 cents per 220 pounds). The water transportation is much cheaper than by rail.

Antwerp, Rotterdam, Amsterdam, and Bremen are the principal seaports for shipment from this district.

The director of the factory informed me that he made no direct shipments of parchment paper to the United States. He sold his produce to a London company, by whom it was disposed of in England, a portion being sent to the United States.

I was assured that the reason he did not sell direct to American customers was that they wished to pay for the goods when delivered, whereas he asked to be paid when he shipped. Further, he was satisfied with his arrangement of selling in England.

The town of Neuss, in Rhenish Prussia, is the only port of shipment for parchment paper in this district. New York and Philadelphia are the chief ports of destination.

The quantities sent and shipments to American ports on the great lakes were unobtainable, as the factory had no direct dealings with American consumers. It is believed, however, that no shipments are made to any of the lake ports, excepting, possibly, Chicago.

CARL BAILEY HURST,
Consul.

CREFELD, *August 5, 1894.*

Vegetable parchment papers are divided, according to their component materials and methods of manufacture, into three general categories, viz:

(1) Genuine parchment paper, which is made of cotton fiber, treated with sulphuric acid.

(2) Pergamene, or imitation parchment paper, which is made of cellulose, or wood fiber, by a process in which sulphuric acid is not employed.

(3) Parchment substitute (*Pergament-Ersatz*), which has most of the qualities of the genuine parchment paper, but is chemically different, and about 25 per cent cheaper.

Genuine vegetable parchment paper is used for drawing, tracing, bookbinding, etc., and especially for filtration in chemistry, and in the refining of sugar, gutta-percha, and medicinal preparations.

Pergamene, which is a cheaper imitation of the genuine, is used for wrapping butter, meats, and other oily substances, and as a damp-proof covering for delicate goods, as well as for the manufacture of envelopes, boxes for confectionery, cigars, etc.

Parchment substitute can be used for nearly all purposes to which the genuine parchment paper is applicable, and for certain uses it is even preferable, as it contains no glycerin. Being about one-fourth cheaper than the genuine, it is gradually replacing the former for many purposes, and is made in various grades of thickness and finish, from 40 grams weight per square meter (39.37 square inches), upwards. It is impervious to oil or grease, and is therefore largely used as wrapping material for butter, meats, and groceries.

There is no manufactory of genuine vegetable parchment paper in the consular district of Frankfort. The only one in southwestern Germany—the Pargamentpapier Fabrik, at Ettlingen, in the Grand Duchy of Baden—was discontinued about two years ago, and the industry is now mainly concentrated in the Lower Rhine region, where there are five manufactories, as follows: The Rheinische Papier Actiengesellschaft and the Neusser Papier und Pergamentpapier Fabrik, at Neuss; Messrs. Flender & Schlüter, at Dusseldorf; Messrs. Schliessen & Eckens, at Rathingen, near Dusseldorf; and Gebrüder Schutz, at Düren. The last two firms are represented by Mr. F. W. Reidenbach, as agent, at Frankfort.

There is in the district of Frankfort one manufactory of pergamene, viz, the Papier Actiengesellschaft, at Aschaffenburg, but this company has as yet made no sale or export of this material to the United States.

The market values of vegetable parchment paper, pergamene, and parchment substitute, in this district are as follows: Genuine, 22 to 23 cents per kilogram; pergamene, 12 to 15 cents per kilogram; parchment substitute, 16 to 17 cents per kilogram. All these prices are "free on board" at Antwerp or Rotterdam.

Railway freights from Frankfort to Rotterdam or Antwerp are 12 cents per 100 kilograms, or $1.19 per metric ton of 1,000 kilograms (2,240 pounds). Freights by river to Rotterdam are somewhat cheaper, but are much slower, and such goods as paper are uniformly sent by rail.

The principal ports of shipment are Antwerp and Rotterdam.

The invoice prices are the same as those given above as market values. They include all charges for packing and freight to seaport of embarkation.

The principal place of manufacture and shipment in western Germany, is Dusseldorf.

Principal ports of destination are New York and Boston. Some purchases have been made from Chicago, but they have been uniformly imported via New York.

No export of genuine vegetable parchment paper has been made from Frankfort during recent years, and but one shipment of parchment substitute, viz, 2,037 kilograms on April 25, 1894, the declared value being 16½ cents per kilogram, free on board at Rotterdam.

Vegetable parchment paper in all grades and forms is subject, when imported into Germany, to a duty of $2.38 per 224 pounds.

FRANK H. MASON,
Consul-General.

FRANKFORT, *June 15, 1894.*

There are only two establishments for the manufacture of this paper in the district of Kehl, one at Oberkirch and another at Ettlingen, both in Baden. Neither of these factories make shipments at present to the United States, although in former years they exported to New York and Chicago.

The prevailing market price of vegetable parchment paper is from 10 to 12 cents per pound, which is somewhat lower than in former years.

When shipments were made by these establishments to the United States, Antwerp and Rotterdam were the principal ports of shipment. The rate of transportation to these ports is 16 cents per cwt.

The establishment at Oberkirch, which is about one-fourth the size of that at Ettlingen, has a plant valued at $10,000, and a working capital of about $8,000. Its yearly output is estimated at 30,000 pounds, which is produced at a cost of 6 cents per pound. There are 25 hands employed, at an average rate of 57 cents per day for men and 26 cents for women. These rates were given by the proprietor himself as average rates.

I infer, from observations made, that there are about five skilled workmen employed at a higher rate, and that the remainder and larger number do not give their entire day to factory work. The very high price of all articles of food which prevails here, and the healthy, well-nourished appearance of all employed, helps to sustain this conclusion.

GEORGE KEENAN,
Consul.

KEHL, *June 25, 1894.*

Vegetable parchment paper is not manufactured within the consular district of Munich, nor has any such paper been shipped from this city to the United States.

Being unable to find a published market price for this article, a wholesale dealer has courteously given me the following prices: Vegetable parchment paper, 29.41 to 31.49 inches wide, 52 to 90 cents per 20 meters (21.87 yards).

The greater portion of the vegetable parchment paper received in this district is obtained from a factory in Prussia, at a rate, I understand, of from 10 to 11 cents per kilogram.

The freight rate between Munich and Bremen for quantities of less than 5,000 kilograms is $1.25 per 220 pounds.

RALPH STEINER,
Consul.

MUNICH, *June 14, 1894.*

There are two different sorts of vegetable parchment paper manufactured in this district (Stettin). One quality, called pergamene, has a market value, as sold to retail dealers, of 10 to 12½ cents per pound, and the other, called artificial parchment, sells at 15 cents per pound.

The transportation rate from Coeslin, the place of manufacture, to Stettin, the port of shipment, is $2.84 per ton, and the steamship rates to New York are $3.60 per ton.

The principal port of shipment is Stettin, and the principal port of destination is New York.

The invoice prices of vegetable parchment paper shipped to the United States average 8½ cents per pound.

The first shipment of parchment paper from this district to the United States was made in 1893. Since then 220,000 pounds have been exported thither. There have been no shipments made to any other American port but New York.

F. W. KICKBUSCH,
Consul.

STETTIN, *June 5, 1894.*

There is no firm in the consular district of Stuttgart manufacturing vegetable parchment paper, but a few firms manufacture imitation parchment paper, in such small quantities, however, that they do not export. Of these firms, I would mention A. Bezner & Co., in Kirchheim and Gemmrigheim; and Gebrüder Palm, in Menkochen. G. Krum, in Goeppingen, manufactures a sort of paper which is afterwards treated chemically in factories outside this consular district, and made into vegetable parchment paper.

Genuine vegetable parchment paper used in Würtemberg is brought from Prussia and Baden, and costs, wholesale, about 9½ cents per pound.

Rotterdam and Antwerp are the principal ports of shipment, the freight from Würtemberg to either of these ports being about 41 cents per 100 kilograms (220.46 pounds).

ALFRED C. JOHNSON,
Consul.

STUTTGART, *June 4, 1894.*

NETHERLANDS.

The market price of vegetable parchment paper in this consular district is $11.20 per 220.46 pounds.

Vegetable parchment paper is not manufactured in the Netherlands.

The import duty on this kind of paper is 5 per cent ad valorem.

LARS S. REQUE,
Consul.

ROTTERDAM, *June 11, 1894.*

AMERICAN BEEF IN EUROPE.*

GERMANY.

Some years ago, in 1889–'90, some experimental importations were made of American live oxen into Germany† when a few shiploads were brought over from the United States. The ventures, however, proved discouraging, and no further effort was made, so far as I am aware, until this year. In July last, the steamer *Prussia* arrived at Hamburg with 340 head of live oxen and 150 head of slaughtered beeves. For several months, since April last, a more or less regular importation from the United States of cattle for slaughter has been going on, but it is only with the shipment now adverted to that the business is regarded as having taken on an earnest aspect. The Hamburg-American Packet Company will soon have five new steamers, specially built for the carriage of cattle and meat, constructed after the pattern of the White Star steamers employed in the cattle trade between the United States and England, of which the *Prussia* is the first; and it is expected that, with them, a lively trade on the part of Germany with the United States will be inaugurated.‡ The *Prussia*, which has made the first trip in this undertaking, was built at Belfast, where a sister ship, the *Persia*, was turned out. The other three ships, of similar type, are being made by German builders. Each vessel has comfortable accommodations for 400 head of cattle and excellent ventilation provided by machinery, is 445 feet long and 50 feet wide, and has machinery of 3,400 horse power.

The meat imported is brought over in chill rooms, having a floor area of 3,750 square feet and a height of 8 feet. The temperature is kept slightly above the freezing point, that the meat may keep well several weeks after importation, it being found that absolute freezing of meat on a short voyage, like that from the United States, is not necessary. This is of advantage to meat from the United States, and gives it a decided superiority over meat from Australia, which, on account of the long voyage it must take, has to be well frozen, and in consequence, can compare on arriving at destination only with inferior meat of Germany, while that coming from the United States is pronounced equal to the best domestic meat.

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*See CONSULAR REPORTS No. 169, (October, 1894), p. 205, for series of reports on "American Beef for Switzerland."

†See Commercial Agent Smith's report, "American Cattle in Germany," CONSULAR REPORTS No. 116 (May, 1890), p. 71.

‡Since the date of Commercial Agent Smith's report, the importation of cattle from the United States has been checked by the action of the German authorities on the claim that cattle affected with Texas fever have arrived at German ports.

The meat which the *Prussia* brought was from Kansas City, and on arrival at Hamburg it was carefully inspected by the police, who confiscated a part of it on account of incipient decay, a proof that the chilling apparatus on the steamer had not always worked properly during the voyage. This is a defect, however, which experience will soon cause to be remedied.

On the occasion of former importations, in years gone by, the meat of American cattle was strongly decried in Germany, as incomparable with the German home article in flavor, appearance, and quality. It was altogether too fat and forbidding-looking in color, it was said, and the newspapers even tried to make out that it turned black in cooking. The butchers also alleged that the animals were too wild, and could not be satisfactorily handled. They have an idea that if they can not punch, hammer, and drag the life half out of an animal, without any resistance on its part, they do not want it. But it is questionable if this sort of warfare against our cheap and excellent meat can be kept up. There must come a time when the importation of American beef into Germany will assume large proportions. It has already done so in England, and why should it not do so here? It can be sold here more cheaply than the native beef of the country, and, in time, the butcher will find it to his interest to deal in it and the public will learn to value it.

The agricultural supplement to the Hamburg Correspondent, one of the best-known journals of Germany, in commenting on this new attempt to introduce American beef and cattle into Germany, says, in substance, that the experience hitherto met with in the importation of cattle for slaughter leaves no room for doubt that, in quality and value for slaughtering purposes, foreign beeves stand not a whit behind German; on the contrary, they excel the German beeves, as a rule, in physical constitution and freedom from disease; and the American cattle so far imported into Germany, especially those which have come to Hamburg, have been singularly free from tuberculosis, which is a matter for serious consideration, in view of the widespread existence of this disease among cattle in many parts of Germany, there having been only 0.115 per cent of the cattle imported from America found to be afflicted with this disease, against a percentage of 10 to 26.7 per cent on the part of German cattle examined at the slaughterhouses.

Other papers also speak favorably of the American meat. Nevertheless, in some quarters, the cry is raised by those interested in German cattle that the animals and meat imported are tuberculous and unfit for food, or inferior in quality, with a view to prejudicing the public against its use. But the country had a severe fodder famine last year on account of the dry summer; animals were slaughtered by thousands to get rid of them, through inability to keep them fed, and beef is therefore higher in price now than it would be had this great sacrifice of cattle not occurred. There must be importation, and the interests hostile to the introduction of American beef will have to give way.

It stands to reason that American beef should be superior in quality and more free from disease than German beef, when it is considered under what conditions favorable to health and physical development it is raised. Our cattle live in a drier climate than that of Germany, and, besides, grow up on large ranges, in the far West or distant South, where there is generally an abundance of nourishing food and wholesome air. What wonder is it, then, that they show a greater immunity from disease than animals bred on marshy tracts or under cloudy skies, on limited pasturage or distillery food?

As recently reported by me, Mr. Conradi, an official representative of the German Government at the Chicago Fair, said in a public lecture at Dortmund that he saw 1,500 head of cattle at the Chicago Fair, concerning which the unanimous verdict was that there was not a single district in all Germany that could show cattle to compare with them.

In previous years, the loss of cattle during the voyage amounted to 10 per cent, in some intances, of the number shipped, and those that reached land all showed signs of fatigue and suffering; but of the *Prussia's* load, none were lost, and all arrived looking well, it is said.

The meat of some of the animals imported has reached this vicinity, and has been well praised.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *August 30, 1894.*

AMERICAN CATTLE IN BREMEN.

Seventy-five American cattle, comprising fifty grade Poll Angus yearlings (mostly heifers) and twenty-two grade shorthorn and Hereford two and three year olds, arrived at Bremen in splendid condition on the steamship *Witterkind*, of the North German Lloyd line, from New York on October 17.

This is the first shipment of live cattle from the United States to this port; a second is expected to arrive in a few days. This week also brought a cargo of two hundred and forty American cattle to the port of Hamburg.

Large sheds are already in process of construction at the Bremen slaughter yards for the special accommodation of future shipments, which those interested expect to make regularly from the United States.

The excessively high price prevailing in Germany for meats, partially due to the shortage of cattle in this country, and the prejudice of the Germans against frozen meat creates an especial demand for such importations.

The excellent condition of this stock when landed reflects credit on all who had them in charge, and is a just compliment to the efficacy of their stabling while on board. I visited the ship before the cattle were landed and was surprised to find them provided with such spacious, light, and airy quarters. They were apparently as well cared for and content as though in a well-regulated stable on land.

In the transfer of these cattle, which was made directly from the ship to the slaughter yards in box cars, too few were put in each car to keep those with horns from injuring each other, but, with the exception of a few bruises received in this way, the dressed meat was free from blood extravasations. The advantage of using hornless or dehorned cattle for shipment is evident.

The slaughterhouses in Bremen are most primitive in point of dispatch, and compare unfavorably in this respect with similar establishments in large cities in the United States. They are, however, splendidly constructed and excellently kept. Whoever has thrown a rawhide or seen one fall gracefully over the horns of a Texas steer, or seen the dispatch with which animals are disposed of in the larger slaughterhouses in the United States, would be amused to see eight men endeavoring to catch a yearling by poking, with a pole, the looped-end of a rope 60 feet long over the head of the animal, and then leading it to slaughter.

Not the least interesting is the department used exclusively for the slaughtering of horses, where not less than sixteen hundred horses are slaughtered annually for consumption in Bremen alone. Horse meat sells to the butchers at 8 cents per German pound.

An official veterinary surgeon inspects all animals, and none can be slaughtered without his approval. Meat must also be approved by him before it can be sold.

The freight charge on these cattle was $13.75 per head from New York to Bremen. This included passage both ways for attendants, but did not include the fodder of the cattle while on board, which was provided by the shipper.

The entrance duty is $1.19 per head for yearlings and $5.95 for those more than two years old. The shipper also pays 95 cents per head as a slaughter tax.

Sales are usually made on the weight obtained from the dressed four quarters of each animal, weighed by a sworn official weigher not less than twenty-four hours after slaughter. Two pounds are deducted from the weight of each quarter to allow for shrinkage.

The average weight of this lot was 475 German pounds per head, for yearlings, when dressed, which was 56 pounds more than they were judged at, and 656 pounds for older cattle. The yearlings sold for 64 pfennigs (15.23 cents) and the others at 62 pfennigs (14.75 cents) per pound, which equals exactly $72.35 and $95.91 per head, respectively. The head, hide, feet, and legs up to the knee and gambrel joints, all the viscera and entrails, with attached fat, and the blood do not enter into this reckoning, but go as a rebate to the slaughterer, who, in turn, must pay the Bremen city "consumption tax," rated at 24 cents per 220 pounds of dressed meat.

Of this shipment of cattle, the hornless yearlings were the most even and most admired, both before and after slaughter. Their meat sold for a higher price than the others, being not so fat, yet both retailed at a higher figure than the meat of native animals. Fat meat is not relished by the people of Bremen; besides, they think there is too much waste in very fat animals, and those which were very fat were sent to the country of the Rhine, where fat meat finds greater favor.

It is worthy of note that animals with the above-mentioned qualities are the most desired here. The entire lot may be properly classed as "rangers."

Another interesting fact is that all these cattle were perfectly healthy; their lungs and livers were not only fit for use but also of an excellent quality—a condition rarely met with in native cattle.

GEORGE KEENAN,
Consul.

BREMEN, *October 24, 1894.*

SUPPLEMENTARY REPORT.

Inasmuch as the order of the German imperial chancellor prohibiting the importation of American cattle into Germany has been enacted into law by the several senates of the Hanseatic cities of the empire and published October 27, and has been extensively commented upon by the press of the United States, I desire to submit the following as supplementary to my report of October 24 on "American Cattle in Bremen."

This decree, following some days after the landing of a cargo of American cattle at the port of Hamburg, several animals of which were said to have been sick with "Texas fever," provided that cattle shipped not later than October 28, might be landed on condition of their being slaughtered immediately. The cargo then en route to this port, numbering eighty head, came on the steamship *Willehad*, and, notwithstanding the fact that stormy weather was experienced, they arrived in equally as good condition as the first shipment—a condition greatly favored by their being, with a few exceptions, all dehorned. Seventy of these were choice, being good grade fat steers, coming three years old. The balance were young and light. These cattle were much fatter than the first lot, and whether it was for this reason or because the sale was supposed to be a forced one on account of the recent decree, they did not sell as readily for so high a figure; but the decree did not enforce the immediate slaughter, for although they were landed on October 30, they were not slaughtered until November 9, and good prices were finally realized—some selling as high as 18.91 cents per English pound, dressed. The average weight of the lot was 655 English pounds, and the average price obtained was $88.49.

However much real fear of "Texas fever" may have been caused by importing American cattle into Germany, and however much people in the

United States may think this measure is simply for retaliation, the facts remain that the fear in the one case would be absurd, and the judgment in the other not altogether true.

GEORGE KEENAN,
Consul.

BREMEN, *November 13, 1894.*

SWITZERLAND.

A short time ago, I sent a report to the Department of State, entitled "Prospects for American Beef in Switzerland." *

A synopsis of this report was published in the New York Staats-Zeitung, and a copy reached the Zurich public library. The article was read by parties who called the attention of the officers of the *Bauernbund* (Farmers' Alliance) thereto, who at once called a meeting of said association with a view of taking steps to secure young American cattle to replenish the stables of every farmer so badly in need of such stock. Negotiations are now under way, which, I believe, will result in a committee being sent to the United States to investigate, and, if found favorable and possible, to purchase young cattle for shipment to Switzerland.

EUGENE GERMAIN,
Consul.

ZURICH, *August 28, 1894.*

DISEASES AMONG FARM ANIMALS IN GERMANY.†

The flap and foot rot (*Maul- und Klauenseuche*) has again broken out among the farm animals in central Germany, notably the Voigtland and Saxe-Altenburg. This is the more unfortunate for the farmers in this part of the country, as only two years ago the same disease reduced the stock considerably, and as the drouth of 1893, with its subsequent fodder scarcity, compelled the farmers to slaughter large numbers of their cattle. Though the local authorities are doing their utmost to prevent an extension of the disease, they have, as it appears, not yet succeeded, for nearly every new issue of the official papers mentions new cases.

The frequent appearance of the disease in the same locality is, certainly, no evidence of a healthy condition of farm animals.

THEO. M. STEPHAN,
Consul.

ANNABERG, *October 16, 1894.*

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* See CONSULAR REPORTS No. 169 (October, 1894), p. 206.

† The Secretary of Agriculture in acknowledging the receipt, by reference from the Department of State, of a copy of Consul Stephan's report, says: "Consul Stephan states that 'the flaps and foot rot has again broken out among the farm animals in central Germany.' As no such disease is known in English-speaking countries, it is fortunate that the consul placed the German designation (*Maul- und Klauenseuche*) in parenthesis, for otherwise it would have been impossible to determine whether this was some new plague requiring unusual precautionary measures to guard against its introduction, or whether it was a peculiar name given to a well-known disease. The English equivalent of *Maul- und Klauenseuche* is foot-and-mouth disease. This is an extremely contagious and rapidly spreading disease, which does not exist on the American continent, and requires the most rigid measures for its exclusion."

GERMAN GRAIN IMPORTS UNDER THE RUSSO-GERMAN TREATY.

When the new treaty of commerce between Russia and Germany went into effect on the 20th of March last, it was predicted that, under its provisions, Russia would soon resume her former position as the source of a large portion of the imported cereal supply of Germany. How promptly this prediction has been fulfilled is shown by some statistics which have appeared in the commercial press of St. Petersburg since the 1st of September, and a comparison of the relative movements in wheat, rye, and oats offers at this time some interesting suggestions.

The immediate and potent influence of the treaty is demonstrated by the aggregate exports of Russian wheat, rye, and oats into Germany during the first seven months of 1893, as compared with those of the same months in 1894, the figures of the latter year showing the movement during the three months just preceding and the four months succeeding the conclusion of the compact.

Cereal exports from Russia to Germany.

Month.	Wheat.		Rye.		Oats.	
	1893.	1894.	1893.	1894.	1893.	1894.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
January	1,470	1,843	2,466	4,580	325	1,138
February	2,167	931	1,095	4,317	10	129
March	1,100	1,669	2,418	8,072	5	2,622
April	578	7,339	2,932	25,268	12	36,035
May	718	17,155	6,234	34,535	82	43,324
June	2,761	28,845	7,009	38,313	527	24,160
July	2,281	37,476	7,035	75,660	1,623	51,341

The question is at once suggested, how nearly has Russia, within these four months, regained her former place as the provider of oats and breadstuffs for Germany. This can be determined only by a comparison of the imports from Russia during the period in question with those of the corresponding months in a year far enough back to be free from the influence of the bad Russian harvests of 1891–'92, and from the disagreements which led to the war of tariffs that disturbed the commerce of the two countries in 1893. Taking 1890 as a normal year under the former régime, it is found that in January of that year, Russia supplied 96 per cent of all the oats imported by Germany, and in January, 1894, only 0.3 per cent. In July, 1890, 67 per cent of the oats imported by Germany came from Russia, and in July, 1894, the proportion had risen to 69 per cent, so that in respect to oats, Russia has substantially regained her former position.

In respect to rye, the recovery has been not less rapid and decisive. During January, 1890, Russia supplied 86 per cent of all the rye imported by Germany, and this proportion had fallen to 21 per cent in January, 1894, and to 24 per cent in February of this year. But in April last, the first month after the adoption of the commercial treaty, the imports of Russian rye rose to 80 per cent of the entire quantity imported; in May, they reached 76 per cent; in June, 73 per cent; and in July 92 per cent against 83 per cent of the total import in July, 1890. It is, therefore, apparent that Russia has already resumed her former place as the provider of more than four-fifths of all the rye imported into Germany.

In regard to wheat, the recovery has been much less rapid, for reasons which relate to the world's wheat market and to the changing sources of supply. In January, 1890, 65 per cent of the wheat imported to Germany came from Russia, and the mean average of the first seven months of that year was 53 per cent. In January, February, and March, 1894, only 2.5 per cent of Germany's aggregate wheat imports came from Russia, but this figure rose suddenly in April to 14 per cent, in May to 25 per cent, in June to 29 per cent, and in July to 22 per cent. In the present condition of the wheat market, Russia has, therefore, failed to recover her former commanding control of German imports, and her supremacy in that staple is now shared by the United States, and in a still larger degree, by the Argentine Republic, the new and ominous factor which threatens to dominate the future wheat imports of central Europe. As a measure of the growing importance of the Argentine Republic in this respect, it may be interesting to put the wheat imports of Germany from that country during the first three months after the adoption of the Russo-German treaty side by side with those from Russia and the United States during the same period.

From—	April, 1894.	May, 1894.	June, 1894.
	Tons.	*Tons.*	*Tons.*
Russia	7.339.9	17,154.7	28,845
United States	12,531.2	10,315.1	19,142.6
Argentine Republic	21,514.7	24,460.5	35,038.4

It is, therefore, not with Russia, but with the young Republic of South America, that our country will have to deal in competing for the wheat future trade of central Europe.

The wheat, rye, and oats crop of the present season promised, at the end of June, to be one of the largest and best that Germany had gathered in recent years. But in July, began a period of heavy, persistent rains, which delayed the ripening of the grain, embarrassed the harvesting, and greatly injured the quality of the yield. In eastern Prussia, the weather was more favorable, and the grain crops were gathered in generally good condition, but throughout southern and western Germany, wheat, rye, and oats were drenched for weeks, and stood in shock or lay in swaths until the straw was blackened and rotten, and the grain in thousands of fields was sprouted and seriously damaged. The local markets are filled with damaged rye and oats, which will all, however, be eaten and saved, so that the grain imports of Germany will probably be less during the coming twelve months than during either of the two last preceding years.

FRANK H. MASON,
Consul-General.

FRANKFORT, *September 12, 1894.*

WHEAT PROSPECTS IN THE ARGENTINE REPUBLIC.

I have for some time been in receipt of dispatch No. 397, March 28, directing me to "obtain, if possible, trustworthy information as to the probable extension of the wheat area in the Argentine Republic, during the next two years, at least." I have delayed answering in the hope that I might be able to secure some reliable estimates in regard to the matter. This I find, however, is quite impossible to do. As I have heretofore had to explain in my reports, there is no agricultural bureau or statistical office whose duty it is to collect information of growing crops and their harvest. Everyone interested makes his own estimates, and they are generally so wide that their mere statement shows them to be only guesswork. Generally speaking, all we can know in regard to a wheat crop is after the harvest is over and the wheat has been shipped. At the end of each year, the custom-house returns show how much has been exported; to these figures are then added what is supposed to have been the home consumption for the year, and thus is obtained the total of the harvest. As to the areas in wheat, or the yields per acre, there is no official knowledge on the subject. Taking mere estimates, however, I have to say that Señor Latzina, of the bureau of custom-house statistics, gives the following as the area in wheat for the years named: In 1883, 243,500 hectares;* 1892, 1,322,000 hectares; 1893, 1,983,000 hectares. What the wheat area is for the present year, can only be estimated, and there is a wide difference in the views of those who are figuring on the crop. Mr. Mulhall, of the Buenos Ayres Standard, gives it as his opinion that the area is upward of 50 per cent more than in 1893—that is, 2,974,000 hectares, or, say, 7,436,250 acres. On the other hand, a well-informed gentleman, who has for years given this subject his attention, assures me, after having traded through the provinces of Buenos Ayres and Santa Fé, that the wheat area for the present year is only about 10 per cent more than it was in 1893, or, in other words, that it is 2,181,300 hectares, or 5,453,250 acres. And he explains that, owing to the unprecedentedly low price of wheat, during the last year, many farmers have put their land down in flax as a more promising crop. What the yield of wheat will be is also mere conjecture. The fields at the present time are looking well, but between now and harvest, the country may be overrun with a plague of devastating locusts, or wet weather may set in and spoil the head.

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* 1 hectare=2.471 acres.

As a matter of comparison, I bring down the table of wheat and flour exports from the Argentine Republic, so as to include 1893 and the first half of 1894, as follows:

Year.	Wheat.	Flour.	Year.	Wheat.	Flour.
	Tons.	*Tons.*		*Tons.*	*Tons.*
1882	1,700		1889	22,806	3,360
1883	61,000		1890	327,894	12,117
1884	108,499	3,734	1891	395,555	7,015
1885	78,493	7,447	1892	490,109	18,849
1886	37,864	5,262	1893	1,000,137	37,521
1887	257,865	5,442	1894 (6 months)	1,029,546	20,628
1888	178,928	6,392			

The returns of wheat shipments for the first six months of the present year, it will be seen, are greater than the entire shipments of any preceding year. How much wheat of the last crop still remains in the country it is not possible to say; but it is now the close of August, and the shipments continue to be large and continuous, a large number of vessels still being under charter for wheat cargoes.

My report, under the circumstances, is necessarily unsatisfactory in reference to the wheat area and the wheat crop of the present year, and, of course, I can say nothing in regard to what it may be "during the next two years." I may remark, however, that our minister, Mr. Buchanan, is now on a tour of inspection through the interior, and it is probable that, on his return, he will be able to give more precise and more reliable opinions in reference to the wheat outlook than I have succeeded in doing.

E. L. BAKER,
Consul.

BUENOS AYRES, *August 28, 1894.*

WHEAT CROP OF FRANCE.

An official report on the wheat crop of France for 1894, just published, gives the yield by districts as follows:

Districts.	Quantity.	
	Hectoliters.	*Bushels.*
Northwestern	11,973,390	33,980,481
Northern	28,795,855	81,721,019
Northeastern	9,911,690	28,129,576
Western	20,656,080	58,620,955
Central	13,861,630	39,345,316
Eastern	12,525,150	35,546,376
Southwestern	11,423,500	32,419,924
Southern	6,898,625	19,569,684
Southeastern	7,464,358	21,182,838
Corsica	116,550	336,769
Total	123,626,828	350,852,938

The cost of production is given at 30 to 35 francs ($5.79 to $6.76) per hectare ($14.31 to $16.70 per acre); and including the provisional stacking, the cost is given at 34 to 40 francs ($6.56 to $7.72=$16.21 to $19.08 per acre).

Every month, says this report, a crop of wheat is harvested in the world as follows: January—in northern Australia, New Zealand, Venezuela, Peru, and in other countries of South America; February and March—in India and Egypt; April—in Persia, Syria, Cyprus, and Asia Minor; May—in China, Central Asia, Japan, Algeria, and Morocco; June—in California, Oregon, the southern United States, Spain, Portugal, Italy, Hungary, Turkey, Roumania, South Russia, Bulgaria, and the south of France; July and August—in the south of England, France, northern United States, Germany, Austria, Switzerland, Poland, Denmark, Holland, and Belgium; September and October—in Scotland, north of England, Sweden and northern Russia; November—in South Africa, Peru, and northern Australia; December—in South Australia, Chile, and La Plata.

It is estimated that the crops of 1894, throughout the world, will be 35 per cent in excess of the world's demands for consumption and seed, which, in view of the large accumulation from previous years, affords little ground for anticipating a higher range of prices in the near future.

The annual consumption of wheat in France is estimated at from 118,000,000 to 125,000,000 hectoliters (334,884,000 to 354,750,000 bushels), a quantity not in excess of, if equal to, the probable domestic production for the current year.

On the 31st of July, the quantity of imported wheat awaiting withdrawal for consumption from the customs entrepots was 559,626 hectoliters (1,588,218 bushels), so that there will be a large surplus over the probable demand for the next twelve months, even should not another bushel be imported.

It is mentioned in the document from which the foregoing is derived, that in Belgium, Holland, and the United Kingdom, which admit wheat free of duty, the current prices are respectively 5.25 francs, 7.55 francs, and 4.55 francs per 100 kilograms ($1.01, $1.46, and 88 cents per 220.46 pounds) less than in Paris.

It will be remembered that the French duty on wheat was increased early this year to 7 francs per 100 kilograms (1.35\frac{1}{10}$ per 220.46 pounds)

SAMUEL E. MORSS,
Consul-General.

PARIS, *September 14, 1894.*

AGRICULTURAL USE OF LAND IN PRUSSIA.

Since the establishment of the German Imperial Government, statistical information concerning the agricultural use of land in the Empire has thrice been gathered and collaborated, the last time in 1893. The latest statistical schedule covering this subject has not yet been issued in its complete form, but the facts and figures, so far as the Kingdom of Prussia is affected, have just been made public. As these will undoubtedly prove to be of great interest to our farming population in the United States, and at the same time confirm the statements of those who have for years advised our American farmers to engage in "diversified farming," I hasten to submit this report previous to the issuing of the statistics for the entire Empire.

Of the total superficial area of Prussia—34,854,542 hectares (86,125,573 acres)—almost one-half was used for agricultural purposes in 1893, an increase as compared with 1883 of 197,680 acres.

The conditions governing the cultivation of the different varieties of products have changed decidedly. Agriculturists are very generally turning from the extensive and almost exclusive cultivation of grains to the cultivation of such products as are made use of in the industries allied to farming, namely, the sugar industry and distillery business, and also to the cultivation of beets, potatoes, etc., thus promoting cattle-raising at the same time.

The increase and decrease, since 1883, of land devoted to the growth of the field products of most importance for Prussia were as follows:

Products.	Percentage.	Area under cultivation in 1893.
Per cent increase.		*Acres.*
Winter rye	4.0	412,809
Winter wheat	8.7	217,282
Summer wheat	15.4	34,031
Oats	4.8	47,290
Fodder beans	17.0	....
Potatoes	4.5	219,603
Sugar beets	18.1	118,205
Fodder beets	22.0	100,209
Carrots	12.3	....
Turnips:		
Principal crop	8.4	....
Secondary crop	19.6	....
Cabbage turnips	25.1	....
Clover	3.8	98,936
Lupines (forage)	61.8	97,148
Serradella	99.8	110,580
Lucern and esparcet	3.7	....
Indian corn	13.0	....
Seed grasses	4.9	....
Per cent decrease.		
Summer rye	28.1	38,686
Barley	7.4	166,827
Mixed grain	7.0	97,357
Buckwheat	22.5	114,444
Pease	19.3	166,096
Lupines	20.2	....
Winter rape	21.0	....
Summer hops	28.1	....

In this connection, it is interesting to note that pasture land, which in 1883 covered a surface of 3,292,149 hectares (8,334,900 acres), has decreased by 19,492 hectares (48,165 acres), or 0.6 per cent, while, on the other hand, the territory given over to vineyards—20,270.9 hectares (50,189 acres)—has increased by 122.4 hectares (302 acres), or 0.6 per cent.

Regarding the yield of crops in Prussia during the last five years, the statistics referred to give the following data:

Description.	1889.	1890.	1891.	1892.	1893.
	*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**
Winter wheat	1,220,078	1,396,174	1,057,417	1,558,591	1,672,789
Winter rye	3,636,437	3,864,605	3,050,507	4,610,116	5,236,251
Summer barley	896,027	1,017,138	1,162,005	1,132,136	949,756
Oats	2,499,494	2,920,749	3,216,547	2,889,854	2,068,758
Potatoes	11,936,440	14,177,837	302,920	16,890,996	20,668,747
Fodder beets	3,024,913	3,183,517	2,936,729	3,143,197	3,632,863
Winter rape	63,839	98,028	63,889	79,525	76,975
Clover varieties	2,606,053	2,892,896	2,926,807	2,564,258	1,736,425
Hay	6,874,461	7,413,843	7,251,245	6,603,563	5,308,942

* Tons of 2,204 pounds.

LOUIS STERN,
Commercial Agent.

BAMBERG, *July 12, 1894.*

DEVELOPMENT OF WESTERN SIBERIA.*

The vast region called Western Siberia is composed of the two governments of Tobolsk and Tomsk. It forms less than one-fifth of all Siberia, but contains fully two-thirds of its population—numbering nearly 3,000,000 souls—upon an area of 871,500 square miles. On the average, even Western Siberia is still very thinly populated, having only three persons to the square mile; but most of its inhabitants have their homes in the central or agricultural belt, comprising an area of about 178,000 square miles, being equal in extent to the states of Illinois, Iowa, and Wisconsin combined. It is estimated that nearly three-fourths of this central section is suitable for agriculture. The southeastern part of Western Siberia forms the well-known Altai mining region, with a surface of 160,000 square miles; the northern and the most extensive part, with its cold climate, pathless forests, and immense marshes, is almost entirely unfit for cultivation.

The Great Siberian Railway runs through the agricultural portion of Western Siberia, which is mostly a lowland, with alluvial soil, and with an average temperature of 60° F. during the five months of vegetation, namely, from the 1st of May to the 1st of October. This section of country is also well watered and well timbered, and, consequently, is favorable in every respect to the cultivation of cereals, as well as cattle-raising.

An increasing stream of emigration from the western side of the Ural is already setting in the direction of this agricultural region of Western Siberia, traversed by the new railroad line; and European Russia, with its population of nearly 100,000,000 and a yearly excess of 1,500,000 births over deaths, is capable of furnishing all the colonists needed for the gradual settlement and development of that portion of the Empire. The number of emigrants who settled in Western Siberia last summer is estimated at 18,000.

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*See CONSULAR REPORTS No. 166 (July, 1894), p. 425, and No. 167 (August, 1894), p. 624, for reports on the "Great Siberian Railway;" also No. 169 (October, 1894), p. 183, "Russian Railroads and the Grain Market."

The western section of the Siberian railroad from Cheliabinsk to Omsk, a distance of 495 miles, has just been finished. Passenger trains commenced running over this line on the 11th of September, and freight trains will begin to be dispatched regularly on the 27th of this month (October). Of course, the passenger service as yet is exceedingly limited. Trains are dispatched from Omsk twice a week—on Tuesdays and Saturdays at 11 o'clock p. m.—and are composed of carriages of the third and fourth classes only. There are nineteen stations in all on the line, the distances between them being, as nearly as possible, 26 miles. The passenger fare between two stations is 60 copecks* (30 cents) in the third class and 30 copecks (15 cents) in the fourth class; one pood (36.112 pounds) of baggage is free, and for any excess, 5¾ copecks (2.88 cents) per pood is charged from station to station. The through fare from Cheliabinsk to Omsk is fixed at 10.80 rubles ($5.40) in the third class and 5.40 rubles ($2.70) in the fourth class. The trains are very slow, the running time over the whole line being two days and four hours. There is now an unbroken line of railroad from St. Petersburg to Omsk, a distance of 2,128 miles, which may be traveled by passenger train, and the time occupied is four and a half days. The Asiatic boundary, marked by a granite obelisk, is reached in two days and four and a half hours.

Though the railroad track crosses the Ural mountains, the greatest elevation is only 1,855 feet above sea level, and the sharpest descent is 1,800 feet in thirty miles of track on the Asiatic slope. The whole mountain section of the line, 200 miles in length, has been constructed without tunnels, at a cost of only 87,000 rubles (about $43,500) per mile—that is, about 15,000 rubles less than the original estimate.

In the course of next year, an effort will be made to lay the track as far as Krasnoyarsk, on the Upper Yenissei, 1,400 miles from Cheliabinsk, and 3,528 miles from St. Petersburg, exceeding by about 300 miles the shortest railroad track from New York to San Francisco. The great iron bridges across the Tobol, Ishim, Irtysh, and Ob rivers can not be finished before the end of the year 1896 on account of the great distance of the manufactories furnishing the materials, and numerous other difficulties of construction. In the meantime, the trains have to pass over temporary wooden bridges, which must be taken down before the ice breaks in the spring; consequently there will be an interruption of traffic on the through line for a short period in the spring, before the permanent structures are completed.

The surplus of grain in Western Siberia likely to be thrown upon the market by means of the new railroad line has already been touched upon in a previous report.* It is estimated that even at the present state of development, regardless of the increase which is sure to manifest itself from year to year, the western section of the Siberian Railroad will haul at least 15,000,000 bushels of wheat, partly for the Eastern Siberian demand, but mostly for the European market. The wheat-grower of Western Siberia will prove a sharp rival and competitor even for the farmer of European Russia, because of the cheapness and fertility of the land, the superior quality of the Siberian wheat, and the low wages of labor. The richest Government land of that region is offered at a yearly rent of 4½ rubles for 15 dessiatines (about $2.25 for 40 acres). The average rate of wages of farm laborers is 37 copecks (about 19 cents) a day during seed time, and 55 copecks (28 cents) during hay and harvest time. The importation of live stock from Western Siberia to European Russia is already very considerable, and the new railroad will naturally give it a new impetus. The number of neat cattle alone in the region for which the western section of the road serves as an outlet, already exceeds six millions.

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* The consul-general values the copeck at half a cent, giving a value of 50 cents to the ruble. The United States Treasury Department estimates the ruble at 37.1 cents. According to the consul-general, these 60 copecks are equal to 30 cents, while according to the United States Treasury they are only equal to 22.3 cents. With this explanation, the estimated values of the consul-general are permitted to stand throughout the report.

Some other products which will serve to make up the freight business of the new line are the following: Lard, wool, horsehair, camels' hair, raw hides of all kinds, including camel and goatskins. Of these articles, about 1,500,000 poods (27,000 tons) are now sent across the Ural annually, and this trade bids fair to grow rapidly. Of the through freight from east to west, the most important article will be tea. At present, over 300,000 poods of Bohea tea and 700,000 poods of pressed and brick tea go west of Irkutsk per year; this freight of about 1,000,000 poods (18,000 tons) will be carried by rail. The purchases of tea are made in China once a year, in April and May, and the tea is delivered at Irkutsk in four to six months. With the present slow transportation westward, the tea does not reach the fair at Nizhni-Novgorod until the following year. Railroad transportation will not insure its timely delivery at Nizhni, but it will be sold at the fair by sample and delivered in Moscow the same year.

The great plain of Western Siberia has a magnificent system of waterways formed by the Ob and Irtysh rivers and their many tributaries. The Ob and Irtysh, which unite in their lower course, are both navigable to the foothills of the Altai, but from the ocean, this system of inland water communication can not be reached during the greater portion of the year, being locked by the ice of the gulf of Ob.

The navigable water courses in the government of Tobolsk alone have a length of 2,520 miles, and in the government of Tomsk, their length is very nearly the same, namely, 2,415 miles, giving, altogether, the enormous stretch of nearly 5,000 miles of navigable rivers in Western Siberia.

The Russian Government has been paying considerable attention to the improvement of natural waterways in that region.

During the current year, navigation opened on the rivers of Western Siberia as follows: At Barnaul, on the 1st of May; at Tomsk and Semipalatinsk, on the 12th of May; and at Tiumen, on the 21st of May. There are at present plying on the Ob and Irtysh rivers eighty-nine steamboats with an aggregate of 7,215 horse power, or 81 horse power on the average, besides two hundred barges. The yearly quantity of freight reaches 15,000,000 poods (about 270,000 tons).

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*See CONSULAR REPORTS No. 169 (October, 1894), p. 183.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *October 24, 1894.*

HEAVY INCREASE OF RUSSIAN EXPORTS.

The export trade of Russia for the first six months of the current year shows a great advance in comparison with the same period of the preceding two years. The aggregate exports reached the amount of 309,348,000 rubles (about $155,000,000), computing the paper ruble at an average value of 50 cents. This total exceeded the exports for the first six months of 1893 by 72,650,000 rubles, and the exports for the like period of 1892 by 142,909,000 rubles. The subjoined table shows the classified exports and their value from the 1st of January to the 1st of July during the last three years:

Years.	Breadstuffs.	Raw materials.	Animals.	Manufactures.	Total.
	Rubles.	*Rubles.*	*Rubles.*	*Rubles.*	*Rubles.*
1892	38,354,000	107,857,000	6,487,000	13,671,000	166,369,000
1893	118,562,000	99,638,000	6,141,000	12,357,000	236,698,000
1894	207,935,000	87,893,000	4,460,000	9,060,000	309,278,000

Among the Russian exports, the breadstuffs or products of the farm are far in the lead, and they nearly all show an immense increase during the current year. The effect upon the markets of the world, combined with the growing exports of the Argentine Republic and the good crops of western Europe, has been severely felt by the American farmer. The increasing volume of the Russian grain exports is shown in the following table. It will be apparent that the increase in value does not always keep pace with the increasing volume on account of the depression of prices:

Description.	Quantity.			Value.		
	1892.	1893.	1894.	1892.	1893.	1894.
	*Poods.**	*Poods.**	*Poods.**	*Rubles.*	*Rubles.*	*Rubles.*
Wheat	2,216,000	60,363,000	86,690,000	2,288,000	55,485,000	66,764,000
Rye	550,000	10,381,000	32,273,000	528,000	7,971,000	17,607,000
Barley	2,066,000	26,591,000	69,533,000	1,397,000	15,103,000	32,566,000
Oats	5,193,000	11,795,000	52,203,000	3,711,000	8,520,000	34,992,000
Corn	8,392,000	7,637,000	27,111,000	5,740,000	4,496,000	15,338,000

1 pood=36 112 pounds.

The export of flour shows, comparatively, but a moderate increase. The total exportation of wheat flour rose from 737,000 poods (135,367 barrels) in the first half of 1892 to 1,412,000 poods (259,347 barrels) in the same period of 1894, valued, respectively, at 1,632,000 rubles and 3,609,000 rubles. The export of rye flour during the same periods advanced from 1,503,000 to 2,342,000 poods (27,054 tons to 42,156 tons), valued, respectively, at 1,731,000 rubles and 2,342,000 rubles.

CHARLES JONAS,
Consul-General.

ST. PETERSBURG, *October 30, 1894.*

IMPORTS OF HORSES, CATTLE, ETC., INTO NORWAY.

I transmit a circular of the 7th ultimo, issued by the Department of the Interior of the Norwegian Government, giving the rules under which horses, cattle, swine, dogs, raw parts of ruminating animals, meat of cattle, tallow, grass, hay, and straw, for fodder, besides implements used for cow stables, are permitted to be imported into Norway.

LAURITZ F. BRONN,
Vice-Consul.

CHRISTIANIA, *July 14, 1894.*

CIRCULAR FROM THE NORWEGIAN DEPARTMENT OF THE INTERIOR.

[Translation.]

In pursuance of section 8 of the act of May 20, 1882, concerning precautions against malignant contagious diseases among domestic animals, the following regulations are hereby prescribed, instead of those contained in orders of June 6 and September 21, 1893:

A.—Horses may be imported from Sweden on the following conditions: A certificate, issued by the police authority, shall accompany each animal, wherefrom it shall appear that the animal has been in Sweden for the six months next preceding, and that the same is healthy and not likely to introduce any contagious disease. Post and traffic horses, passing the boundary with the intention of returning them to Sweden, are not affected by this circular.

When horses are imported from other countries, a certificate, issued by the police authority of the exporting country, or by a Norwegian consul, must accompany each animal, wherefrom it shall appear that the animal is healthy and not likely to introduce any contagious disease.

Each animal, on arrival in a Norwegian port of entry, must be inspected by a duly authorized Norwegian veterinarian and by him declared to be healthy.

B.—*Ruminant animals.*—Neat cattle, sheep, and goats may be imported from Sweden, except from Malmöhus county, on the following conditions:

(1) The importation must be made by rail or steamer direct to Fredrikshald.

(2) A certificate from a Swedish police authority, or an authorized veterinarian of the district concerned, must accompany the animals, showing that they were not imported from the county of Malmöhus, or from any foreign country during the six months next preceding, and, further, that no mouth-and-foot disease, rinderpest, or malignant lung disease has existed, or has been supposed to exist, in said districts for the past six months.

(3) The animals must be marked or described in the certificate, so their identity may be satisfactorily proved.

(4) The animals must be entered through the port of Fredrikshald, which port has been designated as a quarantine station, where the inspection will be made in accordance with the regulations prescribed by the department.

Importation of ruminants (neat cattle, sheep, goats, and others) is forbidden from other countries, except the Russian ports in the Arctic Ocean and the White Sea, from which these animals may be imported into Finmark. The Norwegian reindeer trade is not affected by this prohibition.

Neat cattle, sheep, and goats can not be imported from Finmark into any other district in the country.

C.—Swine can not be imported from any country, with the exception of the Russian ports referred to in paragraph "B," from which they may be introduced into Finmark.

Swine can not be imported from Finmark into any other district in the country.

D.—The importation of dogs is forbidden from all countries, with the exception of Sweden and Denmark, from which countries they may be introduced, provided they are accompanied by a certificate issued by the police authority of the country concerned, from which it shall appear that the animals in question have been in said country for at least six months, and that, according to the statement of an authorized veterinarian, they are not likely to disseminate any contagious disease. Dogs belonging to owners of Swedish herds of reindeer and passing through Finland with such herds in transit from Sweden are not affected by this prohibition.

E.—Raw parts of ruminating animals and swine, also undressed skins and hides (dried and salted hides and skins not being included), undressed, unmanufactured, and uncleaned hair and bristles, together with muzzles and hoofs, are not allowed to be imported from any country.

The importation of unsalted and undressed meat and pork, and also unmelted tallow, is forbidden from Austria, Italy, Greece, Turkey, and Russia, except into Finmark from ports in the Arctic Ocean and the North Sea, and likewise from all countries outside of Europe.

F.—The importation of grass, hay, and straw for fodder is prohibited from all countries except Sweden, and into Finmark from Russian ports in the Arctic Ocean and the White Sea.

G.—Utensils for use in cow stables that have already been in use, shall not be imported from any country, unless satisfactory evidence is furnished that they have been thoroughly disinfected.

This order shall take effect on the 11th instant. All parties concerned shall duly obey it.

The above is hereby communicated.

SUPPLEMENTARY CIRCULAR.

Referring to the dispatch of July 14 last, transmitting a circular from the Norwegian Department of Interior, containing regulations respecting the importation of domestic animals, I have the honor of transmitting an additional circular making some modifications in the paragraph marked "B" in said circular.

GERHARD GADE,
Consul.

CHRISTIANIA, *September 28, 1894.*

[Translation.]

The following decree was issued on the 7th instant.

In pursuance of section 8 of the act of May 20, 1882, respecting precautions against malignant contagious diseases among domestic animals, the paragraph marked "B" in the order of June 6, 1894, containing regulations concerning importation of animals, is hereby altered as follows:

B.—*Ruminant animals.*—Neat cattle, sheep, and goats may be imported from Sweden, except Malmöhus county, on the following conditions:

(1) The importation must be made by rail or steamer direct to Fredrikshald or Christiania.

(2) A certificate from a Swedish police authority or an authorized veterinarian of the district concerned must accompany the animals, showing that they were not imported from the county of Malmöhus or from any foreign country during the six months next preceding, and further, that no mouth-and-foot disease, rinderpest, or malignant lung disease has existed, or has been supposed to exist.

(3) The animals must be marked or described in the certificate so their identity may be satisfactorily ascertained.

(4) The animals must be transported direct to the quarantine stations for inspection.

(5) If the animals are shipped by vessel direct to Christiania the inspection shall be made on board the ship before the landing of the animals.

(6) The Department of the Interior is authorized to issue the regulations concerning the importation.

This order shall take effect at once.

This is hereby communicated.

POTATO TRADE OF DUNDEE.

In view of the large trade in potatoes carried on between this port and the United States, it may be of interest to furnish some particulars as to what has been done in the past, and what are the prospects for the season about to commence. Dundee is the center of the potato district of Scotland, the counties of Fife, Perth, and Forfar being particularly adapted to the raising of potatoes. Shipments have been irregular, depending upon the supply here, and more particularly the yield in the United States. In the early years of the trade, almost any variety were exported, but latterly, only the "Magnum bonum" and "Bruces" are shipped, and of these, none but the best, in well assorted parcels, are sent. At the commencement of the past season, the local price averaged about $11.55 per ton, free on board, exclusive of the cost of sacks, which was 13 cents each. The price realized for shipments during the months of November, December, and the early part of January was so unremunerative that a number of merchants stopped shipping altogether; however, during the latter part of January, the price here declined and advanced in the United States, and from that time till the end of the season, large shipments were sent. The great bulk of the shipments are sent to the New York market, with occasional shipments to Boston, and at rare intervals, to Philadelphia or Baltimore. Of the shipments last year, about 19,000 tons went by the Arrow line direct to New York, the balance being shipped via Glasgow. The direct rate from Dundee to New York averaged $2.85 per ton net, and from Glasgow, the average rate was about $3.65 per ton with 10 per cent primage.

The following table gives the number of tons shipped each month during the season, together with the invoiced value:

Month.	Quantity.			Invoice value.
	Tons.	*Cwts.*	*Qrs.*	
1893.				
October	423	15	0	$7,275.60
November	2,648	10	1	44,177.02
December	4,425	11	3	75,275.63
1894.				
January	3,698	11	2	66,292.88
February	5,056	5	2	87,228.79
March	5,234	10	3	92,269.47
April	5,804	14	2	99,078.39
May	4,306	16	0	78,610.24
June	146	5	0	4,060.43
Total	31,745	0	1	554,268.45

The outlook for this season's business is somewhat uncertain. The area under cultivation in Scotland during 1893, according to the Board of Trade returns, was 137,244 acres. It is believed that the acreage this year is much less, and, besides, more of the "Regent" variety, which are not exported, have been planted, and these, together with the other kinds, have suffered severely from frosts in the early spring, and later, from heavy rains. Owing to these causes, it is estimated that the average yield per acre will show a considerable decrease, which, together with the fact that less of the kinds exported were planted, will materially enhance the cost here for shipment. As against this, however, the new United States tariff reduces the duty from 25 cents to 15 cents per bushel, and there is reported to be a shortage in the crop in the United States, which will materially enhance the value there.

JOHN M. SAVAGE,
Consul.

DUNDEE, *September 28, 1894.*

RAILWAY EXTENSION IN ECUADOR.

I have the honor to report that the session of the Congress of Ecuador, which would have regularly closed on the 9th of August, was prorogued until the 30th of the same month, mainly for the purpose of discussing the proposition of Mr. Theodore Delort, representing a Paris syndicate, for the construction of the Southern Railway (*Ferrocarril del Sur*).

The only railway now existing in Ecuador bears the above name, and extends from Duran to the Puente de Chimbo, a distance of about 95 kilometers, or 60 miles. A ferry from Duran across the river Guayas connects the line with Guayaquil, the principal port of the Republic.

The proposal of Mr. Delort was for the continuation of the railway to Riobamba, a distance of about 200 kilometers (125 miles), with the privilege of making an additional contract for its completion to Quito. On the 29th of August, the Congress passed a law authorizing the Executive to make a contract with Mr. Delort upon the following terms:

The company to deposit as a guaranty with the government 250,000 francs within ten days after the passage of the law and before the signature of the contract, and 1,750,000 francs before the 1st of February, 1895; the line to be divided into four sections of 50 kilometers each, two sections between the Puente de Chimbo and Sibambe (about the middle point of the line), and two sections between Sibambe and Riobamba; each section to be open for traffic as soon as completed, and the first two sections to be finished in two years and the last two in six years from the beginning of the work.

In consideration of the above, the Government agrees, on the day after the payment of the 1,750,000 francs, the second and final installment of a deposit of 2,000,000 francs, to hand over to the company the line from Duran to the Puente de Chimbo, and to guaranty 6 per cent interest, payable in Ecuadorian silver, on a sum computed at the rate of 43,000 sucres* per kilometer. This guaranty of interest is for thirty-three years, but the company has the right to operate the line for fifty years, at the termination of which period it becomes the property of the Government. Should the net receipts at any time exceed the guarantied interest, the surplus is to be divided between the Government and the company. There will also be a like division of the entire net proceeds during the seventeen years elapsing between the expiration of the thirty-three years, during which interest is guarantied, and the full term of fifty years.

The passage of this law was received by the majority of the people with considerable enthusiasm. There was, therefore, a corresponding amount of surprise and disappointment when the ten days fixed by the provisions of the law had expired and the deposit of the first installment of 250,000 francs, the condition precedent to the signature of the contract, had not been made.

As far as I can learn, the members of the Paris syndicate heard rumors, or threats, which led them to believe that a protest would be made by persons interested, or claiming to be interested, in the road from Duran to Chimbo against its transfer by the Government to the new company, and that the Government might not be able to make the transfer, at least without some delay or litigation. As the whole deposit of 2,000,000 francs is to be made before the delivery of the road, they feel some disinclination to pay this amount to the Government of Ecuador. However this may be, Mr. Delort, after waiting for some time without being able to persuade his principals to make the initial deposit of 250,000 francs, obtained from the Government an extension of sixty days, and left on the 6th of this month, after expressing the belief that he would be able to arrange matters satisfactorily on his arrival in Paris.

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*The sucre was estimated at 46.4 cents by the United States Treasury Department on October 1, 1894.

I have delayed this report in expectation of the signing of the contract. I now send it in the belief that even if the contract is not ultimately signed, it may be of interest to know the terms on which the Government of Ecuador is desirous of granting the concession.

EDWARD H. STROBEL,
Minister.

QUITO, *October 22, 1894.*

SPECIAL TAX FOR RAILWAYS IN ECUADOR.

I have the honor to inclose a translation of a law passed by the Congress of Ecuador at its last session, imposing certain taxes for the purpose of establishing a fund to be used for the construction of railways in the Republic. The law provides, with a few exceptions, for a tax of 10 cents per 100 kilograms (220.46 pounds) on all packages and articles passing through the custom-houses for import or export; for a tax of 1 per cent on all money to be paid for freight or passage by sea, and a tax of 2 per cent on all money to be paid for insurance premiums, whenever such payments are made outside of the country. These last two provisions are, without doubt, intended to bear upon foreign corporations. Banks are also required to pay 2 per cent upon their annual dividends, and banks of emission an increased tax of one-half of one per cent upon the value of the notes issued by them.

This general law is an extension of the law of August 6, 1892, which provides a fund for the construction of the Southern Railway (*Ferrocarril del Sur*)—the subject of my report of the 22d instant—by devoting to the purpose the product of the salt monopoly and of a tax of 10 cents on every quintal (100 pounds) of ivory nuts exported from the Republic.

EDWARD H. STROBEL,
Minister.

QUITO, *October 30, 1894.*

[Translation.]

The Congress of Ecuador, considering that railways constitute an element of civilization, and that, with the establishment of the same, commerce, agriculture, and industry are considerably developed, and that it is a primary necessity to create a special fund to be devoted to their construction, decrees:

ARTICLE 1. There shall be collected from the 1st of January, 1895, a tax on the passage through the custom-houses of the Republic on all packages imported or exported. A tax shall also be imposed upon the companies and banks mentioned in the present law. This fund shall be called "railway tax."

ART. 2. All packages and articles for import shall pay 10 cents for every 100 kilograms of gross weight.

ART. 3. All packages and articles for export shall pay 10 cents for every 100 kilograms of gross weight.

ART. 4. From the above taxes are excepted ivory nuts, tar, hides, split and whole cane (for building purposes), vegetable coal, bark, fruit, woods of all kinds, plants, ropes, tamarinds, and minerals in general.

ART. 5. Those who, for their own account, or as agents or consignees, contract for freight or passages by sea, shall be obliged to pay 1 per cent of the sums received by them, or the sums agreed upon, if the payment for such freight or passages has to be made elsewhere. There are excepted from this tax national vessels or craft engaged in the coast trade.

ART. 6. Fire, maritime, and life assurance companies shall pay 2 per cent of the sums received for premiums, or of the sums agreed upon by them, if the payment has to be made elsewhere.

ART. 7. Banks shall pay 2 per cent on the value of their annual dividends, and the banks of emission, circulation, and discount—the subject of the law of June 4, 1878, amended on the 27th of August, 1886—shall pay, in addition, one-half of 1 per cent on the value of their emissions.

ART. 8. This addition is made to the law of the 6th of August, 1892, and the product of these new taxes can be used for no other purpose than the one stated in the present law, the Minister of Finance being responsible for this.

CUSTOMS TARIFF OF ECUADOR.

I have the honor to inclose a translation from the Official Journal, of September 12, 1894, of a law which modifies the customs tariff of this Republic to take effect from the 1st of January next. A careful comparison of the law with the tariff which it amends shows the following to be the principal changes:

Reduction of duties.—Small boats have been transferred from class 3 of the tariff (1 cent per kilogram), to the free list, and plows, plowshares, picks, hoes, rakes, weed hooks, and mattocks from class 4 (2 cents per kilogram), to class 3 (1 cent per kilogram); crude saltpeter for manures from class 5 (5 cents per kilogram), to the free list; mineral waters and fountains of marble, iron, or other materials, from class 5 (5 cents per kilogram), to class 3 (1 cent per kilogram); cardboard (ordinary or glazed), for binding, from class 5 (5 cents per kilogram), to class 4 (2 cents per kilogram); hams, from class 7 (50 cents per kilogram), to class 5 (5 cents per kilogram); beads of glass, china, or metal, from class 8 (1 sucre per kilogram), to class 7 (50 cents per kilogram); albums, pocketbooks, cigar cases, and games not expressly mentioned, from class 9 (1.50 sucres per kilogram), to class 8 (1 sucre per kilogram); cartridge shells, playing cards, and purses, from class 10 (2 sucres per kilogram), to class 7 (50 cents per kilogram); shot, instead of 2 sucres per kilogram, will now pay under article 64 of the old tariff, 25 cents per kilogram.

Increase of duties.—Starch of all kinds, and harnesses have been transferred from class 5 (5 cents per kilogram), to class 6 (10 cents per kilogram).

EDWARD H. STROBEL,
Minister.

QUITO, *October 23, 1894.*

[Translation.]

ARTICLE 1. To article 2 of the law add "Machalilla" after "Callo."

ART. 2. Section 11 of article 10 is repealed.

ART. 3. To article 11 add "Machalilla" after "Callo."

ART. 4. To section 1 of article 12 add "the hours of work in the custom-house offices, for all employés, shall be from 7 to 10 a. m., and from 12 to 5 p. m., and all failures in attendance shall be deducted from their salaries.

ART. 5. In the third qualification of article 12, after the word "combustibles," add "except in Guayaquil, where it shall be deposited in the fireproof storehouse of the Treasury."

ART. 6. Strike out from the sixth qualification of article 12 the word "revise," and from the eighth the word "foreigners."

ART. 7. Section 18 of article 12 shall read, "render with the comptroller and collector accounts supported by voucher to the tribunal of accounts within the legal term."

ART. 8. Section 2 of article 13, after the words "of the article preceding," will read, "for these administrators the third qualification is extended to combustible articles, whose clearance must likewise be immediately demanded."

ART. 9. The fifth requirement of article 20 shall read, "forty-eight hours" instead of "twenty-four hours."

ART. 10. To the sixth requirement of article 20, at the termination of the first part, add "and the packages marked by the examiner who entered them." To the seventh add "and without the inspection of the examiner." The eighth will read "fix the date for the delivery the same day the clearance is completed, both on the copy of the papers in which the settlement must be made as well as on the copy which he keeps for his archives." In the eleventh qualification, after "present to the administrator," add the following: "Until the 31st of January of each year a return of the packages which were on deposit in the warehouses the previous 31st of December, based on the balances of current accounts of cargoes, and indicating those whose maximum period for deposit has expired." Between the first and second chapters of section 1 of article 20 insert "when merchants claim from the administrator for the loss of packages which have not been delivered to them, the storekeepers are personally responsible, and shall pay for the value of the invoices and the expenses without prejudice to the payment by them of the customs duties. The receipt which the storekeepers shall require on the delivery of the packages shall be the sole document relieving them of responsibility. The administrator is the judge in this complaint, which shall be oral and summary, and without appeal."

ART. 11. To article 25, after the word "administrator," insert "for which purpose the examiner shall, upon the copy of the papers which go to the storekeepers, identify with clear marks the packages which he wishes to examine, and which will be brought out for clearance."

ART. 12. Repeal article 26.

ART. 13. After article 27 add a section to read: In case of doubt, the merchant shall have the benefit of the doubt.

ART. 14. To article 40 add the following section: They shall likewise keep a record by number of the clearance papers of the permits for exportation.

ART. 15. Article 45 shall be drawn up as follows: In Guayaquil there shall be a custom-house jury, composed of the Government attorney of the superior court (who shall preside), of an importer appointed by the Executive, and of another importer appointed by the Chamber of Commerce. The clerk of the provincial government shall be the secretary of the jury. In case of absence there shall be substituted, for the president, the assistant Government attorney; for the importer appointed by the Executive, another to take his place who must be appointed at the same time as the first regular appointee; for the importer appointed by the Chamber of Commerce, another to take his place, appointed by the same corporation; for the chief clerk, there shall be substituted the second clerk of the same provincial government.

ART. 16. Article 47 shall terminate as follows: Except as regards the weight of the packages, loss, damage, contents, in which cases he must appeal to the administrator at the time of clearance.

ART. 17. In article 48, after "jury," add "which shall hear shortly and summarily the interested party and decide without further details." The words "which shall without further details" are therefore stricken out of that article. To the same article add a section which reads, "the decisions of the jury shall pass to the administrator for execution."

ART. 18. To section 6 of article 52 add "those which shall be destroyed."

ART. 19. The last section of article 52 shall be drawn up as follows: Only the Government is permitted to introduce for the service of the nation war materials and the other articles comprised in the present article, except those of sections 3, 6, 7, and 9. The importation of dynamite shall be subject to the provisions of the existing mining laws.

ART. 20. The following changes are made in article 53: Section 3 of article 53 of the law will read, "with the exception of salt from Peru, which shall pay one cent per kilogram;" section 4 shall read, "the sacred vessels and ornaments of the priests, which shall be directly imported for the service of the churches, by previous order of the Government, on the petition authorized by the respective prelate of the diocese or by his vicar-general, and accompanied by the bill of lading and copy of the invoice;" section 6 shall read, "articles for foreign religious institutions established in the country, and which, by virtue of contracts already made, enjoy this privilege." The present provision relates solely and exclusively to houses established before 1884, and whose original contracts have not yet terminated since that date. The Minister of Finance shall examine the contracts in which this clause may be still in force, and shall use all legal means in order to put an end to the concession. Section 7 is repealed; section 8, after "public ornamentation," will read, "by previous order of the Ministry of the Treasury." Section 9 will read, "the following articles" (free of duty):

Animals for breeding purposes.
Advertisements of manufactories.
Pumps and their accessories for the fire department.
Iron buoys.
Ships constructed or in sections, and their machinery run by steam.
Animal and vegetable coal.
Small boats.
Railway plants of every class and accessories.
Fresh fruit.
Guano.
Lint for wounds.
Birds' eggs.
Hose for the fire department.
Gold coin.
Samples of goods, small articles which have no value, and which are sold and used in pairs, whenever those interested allow them to be made useless.
Gold in dust and bars.
Ship masts.
Live plants.
Silver in ingots, and bars when the law does not prohibit it.
Iron bridges and accessories.
Life preservers.
Unrefined saltpeter for manure.
Seeds of all kinds for sowing.
Metallic cocoa dryers.

The executive is authorized by previous accord with the council of state, to permit the importation, free of duty, of articles intended for the municipalities for lighting or any other public use, whether the work be executed by contract or directly by them. If the work is done by private contractors, the latter must give bond to reimburse the duties in case of non-completion of the work.

ART. 21. Articles 55 and 56 shall precede article 54.

ART. 22. Article 54 shall read: Class 3, 1 cent per kilogram—

Bran.
Rice.
Plows, machines, complete for agricultural and industrial purposes, cutlasses (machetes) from 18 inches (English) and upwards, picks, hoes, rakes, and weed hooks for agriculture, mattocks and plowshares for agriculture.
Garlic.
Mineral waters, like Vichy and others.
Ordinary empty bottles for bottling liquids.
Empty earthenware jars.
Empty demijohns.
Sweet potatoes.
Wooden or iron houses, in parts or pieces.
Onions.
Roman cement.
Dry or fresh cocoanuts.
Dried or fresh hides, untanned.
Dynamite or powder for mines, observing the provisions of the laws regarding it.
Printing presses and their accessories.
Bricks of ordinary mud.
Fresh vegetables.
Pulse of all kinds, not prepared.
Unwrought timber in pieces, beams, and planks, although planed and dovetailed for building purposes, shall pay 1 cent for every 2 kilograms.
Potatoes.
Fountains of marble, iron, or other material.
Fodder.
Roofing slates.
Roofing tiles.
Earth for foundry purposes.
Carob beans for feeding animals.

ART. 23. Article 57 will read: Class 4, 2 cents per kilogram—

Steel, crude.
Iron wire and staples for fences.
Tar.
Anchors.
Crowbars and pinchers, spades, and shovels.
Mechanical water pumps.
Pitch.
Iron ridging for roofs (*caballeretas*).
Lime for masonry.
Conduits and pipes of clay, iron, earthenware, or lead.
Cardboard, ordinary or glazed, and for binding purposes.
Carts and trucks.
Wagons.
Nails of all kinds of metal.
Barley.
Blank copy books for instruction in writing.
Copper, bronze, or brass, crude or in sheets not perforated, and waste pieces.
Unwrought staves for casks.

Iron axles for carts.
Tin, crude.
Iron (crude) in plain sheets, and in corrugated bars for roofs, pig iron for castin
purposes, and hoop iron for coopering.
Globes, geographical and astronomical.
Screw propellers for steamers.
Tin plate, crude or in smooth sheets.
Stones for pavements.
Books and pamphlets, printed.
Crockery (common) for table service, table sets, and other domestic use.
Hops.
Corn.
Dyewoods.
Paper, white, large sheets for printing.
Paper, brown, for office, packing, and sheathing vessels.
Stones for filtering water.
Slates for writing and slate pencils.
Salt fish.
Marble dust.
Gas retorts of earthenware.
Wheels for carts and trucks.
Wheels and loose parts for agricultural and manufacturing machinery.
Wheat.
Iron tacks.
Printing ink.
Whetstones.
Zinc, crude or in sheets not perforated.

ART. 24. Article 58 shall read: Class 5, 5 cents per kilogram—

Machine oil.
Spirits of turpentine.
Annotto.
Sugar.
Lavender.
Cotton, ginned or not.
Almonds.
Canary seed.
Alum.
Soda water and apparatus.
Filberts.
Barometers.
Barrels, buckets, pipes, and tuns of wood, empty.
Ship compasses.
Iron chains for ships and small craft.
Earthenware jars, common.
Salt meats.
Carriages, set up or in parts, and their detached pieces.
Beer in any vessel whatsoever.
Iron cooking stoves.
Cumin seed.
Small Chilean cocoanuts.
Crucibles.
Glassware, for any domestic use.
Coarse cloth or bagging for sacks.

Hides of small animals, untanned.
Sugar refuse (*Chancaca*).
Chicha (a fermented liquor) of all kinds except from grapes.
Chuno (a kind of meal prepared in Peru), or tapioca or other farinaceous foods.
Statues of wood, marble, etc., exceeding one meter in height.
Tow of all kinds.
Vermicelli.
Fruits (dried) and other eatables not prepared, which are not expressly mentioned.
Grease for machinery.
Flour of wheat, corn, or any other grain.
Cotton waste.
Oilcloth for floors.
Soap, common.
Hams.
Cordage, sisal and manilla.
Kerosene of 150° and upwards.
Linseed.
Crockery, fine or porcelain, for any domestic use.
Cutlasses (machetes) when not those specified for agricultural purposes—that is, when they have not the measure as stated above.
Cornstarch (maizena).
Monuments or tombstones exceeding one meter.
Music in manuscript, printed or lithographed.
Nuts.
Marjoram.
Organs for churches.
Broom straw.
Raisins.
Stones of all classes not specially mentioned.
Lead, crude.
Oars.
Sacks, empty, of hemp or cotton.
Tallow.
Jars and pitchers of earthenware.
Writing ink.
Sheet glass, unsilvered.

Art. 25. Article 59 shall read: Class 6, 10 cents per kilogram—

Linseed, olive, castor, and almond oils.
Olives in any kind of vessel.
Manufactured steel.
Starch of all kinds.
Indigo.
Harmoniums.
Harness for carts.
Sulphur.
Varnish.
Empty trunks, that is, when they do not serve as a receptacle for merchandise; when they are filled with other articles, they will pay the duty corresponding to the merchandise which they contain.
Billiard tables and accessories.
Jars of fine earthenware.
Wax, crude.
Copper or bronze, manufactured or in perforated sheets.

Preserves, and other prepared articles of food not expressly mentioned.
Corks.
Glassware (fine) for toilet sets and other domestic use.
Oilcloth for covering packages.
Pickles.
Tin, manufactured.
Shoe pegs, wooden.
Stearin, raw.
Felt (tarred) for vessels.
Iron, manufactured.
Matches.
Tools for artisans.
Twine for sewing sacks or sails.
Tinware.
Musical instruments exceeding one meter in height.
Sirups, not medicinal.
Cotton cordage.
Brass ware.
Wool, raw.
Blank books.
Emery paper.
Lard.
Butter.
Mustard.
Furniture of all kinds, whether put together or in pieces, whatever the material of which it is made, and upholstered.
Writing paper and other not specially mentioned.
Chinese matting.
Marble slabs for furniture or flat stones.
Paints in paste, powder, or of any other kind.
Strings of all sizes.
Lead, manufactured, except shot, which shall pay, according to article 64, 25 cents per kilogram.
Cheese of all kinds.
Envelopes.
Table salt, fine.
Candles of all kinds.
Wines in any kind of receptacle.
Vinegar.
Gypsum.
Zinc, manufactured or in perforated sheets.

ART. 26. Article 60 shall read: To the seventh class (50 cents per kilogram) belong—

All woolen articles, woven or not, with or without woof, and not containing silk.
Waters for the toilet, like Florida, Cologne, Kananga, and the like, and those used for the head.
Aniseed.
Playing cards.
Buttons of all kinds.
Hand and hawk bells.
Straps and other manufactured articles for making harness or belts, separate and not for saddle equipment.
Beads of glass, china, or metal.
Spurs and bits.

Soaps, scented.
Toys and dolls.
Scarfs, not containing silk.
Shawls, not containing silk.
Cartridge shells, when the importation is not prohibited, and caps for firearms.
Umbrellas and parasols.
Scissors, penknives, razors, and corkscrews.
Braid and tape.
Garments, ready-made, of linen or cotton, such as shirts, suits, frock coats, waistcoats, etc., with the exception of knitted undershirts and drawers, stockings, socks, collars, and cuffs.
Rubber shoes.

ART. 27. Article 61 shall read: To class 8, at 1 sucre per kilogram—

Textures of all kinds containing silk, silver, gold or metallic threads in imitation of the same.
Ornaments for clothing, shoes, hats, baptismal articles, etc.
Albums.
Jewelry, imitation of all kinds.
Spectacles and lenses of all kinds.
Walking sticks.
Corsets.
Shoes of all kinds.
Pocketbooks, cigar cases, and purses.
Laces and trimmings of thread or wool.
Breech-loading guns.
Stereoscopes, magic lanterns, and views for same.
Caps and bonnets, large and small.
Gloves of all kinds.
Hammocks of all kinds not containing silk.
Games not expressly mentioned.
Articles of any metal, plated or gilded.
Sheets of paper, loose.
Watches, when not gold or silver.
Embroidered strips of cotton or wool.
Hats of all kinds, plain.
Tissue and articles of crape or knitting.
Tobacco in leaf.
Ready-made woolen garments.

ART. 28. Article 62 shall read: Class 9, 1.50 sucres per kilogram—

Fans of all kinds, with the exception of those made from common paper and straw
Cigar and cirgarette holders and pipes for smokers, excepting those of clay or wood
Brocades.
Hair, human and artificial.
Tortoise shell, manufactured.
Coral, crude or manufactured.
Strings for musical instruments.
Epaulets.
Flowers, artificial.
Bands of gold or silver lace, woven.
Gold and silver leaf or thread.
Spangles.
Ivory, manufactured.
Tinsel.

Rice powders.
Ready-made silk garments.
Feathers for ornaments.
Perfumery, with the exception of toilet waters and scented soap.
Hats, bonnets, cloaks, etc., with ornaments for ladies and children.

ART. 29. Article 63 shall read: Class 10, 2 sucres per kilogram—

Cosmetics.
Crowns and other funeral ornaments.
Swords and sabers.
Jewel cases.
Masks.
Articles of gold or silver of all kinds and their cases.
Opium.
Precious stones of all kinds, in settings or as jewels, including their cases.
Pistols and revolvers.
Tobacco, manufactured.
Essence of aniseed.

ART. 30. Article 68 is repealed.

ART. 31. Section 3 of article 75 shall read: Consuls shall not certify manifests or invoices to ports not open to imports, nor after the vessels or merchandise referred to in those documents have left port, under penalty of dismissal. And it is an obligation on their part to place the same certificate, word for word, on all copies of each manifest and invoice, without demanding for this service greater fees than those fixed by the following articles.

ART. 32. Article 77 shall be modified as follows: In section 1, after the words "in the following form," add "Guayaquil." The section which provides funds for pumps in Manta and Portoviejo, shall read: For fire engines in Manta, Montecristi, and Portoviejo $4,000. In the list of appropriations for Esmeraldas at the end add: Building for school of Christian Brothers, $6,000.

ART. 33. Article 80 is repealed and the following substituted: Merchandise which is introduced through the land custom-house of Tulcan shall have a surcharge on the amount of import duties of 50 per cent. From this surcharge are excepted articles native to and manufactured in Colombia, which shall be subject to the provisions contained in article 67 of this law.

ART. 34. In article 81, after the word "goods," strike out the word "foreign."

ART. 35. Article 89 shall read: Sales by wholesale on board do not exempt goods from the payment of duties, nor from clearance formalities. Sales by retail on board are forbidden, and infringement of this provision renders the goods liable to confiscation *ipso facto.*

ART. 36. Article 105, at the end shall read: Except in the custom-house of Guayaquil, where the collection shall be made by the collector.

ART. 37. After section 1, of article 113, add the following section: The steamers of the Pacific line may solicit a permit for loading and unloading and obtain the documents mentioned in the preceding articles before their arrival in port. The consignees remain subject to certified charges made by the chief of customs.

ART. 38. To article 115 add this section: If the master should not present these documents, or there should be errors in them, the captain of the port shall impose a fine of from 20 to 100 sucres.

ART. 39. To article 126 add the following section: In reference to the other ports of Ecuador, the regulations fixed by the Executive will be followed.

ART. 40. To article 128 add the following section: When there shall appear more packages in the list of packages than in the manifest certified to by the consul, the master shall be liable to a fine of from 25 to 100 sucres for each package. In the case of the steamers of the Pacific line, the agents will be responsible for the fines. In the same article (128), after the words "until proofs are furnished," add "if these are not full and conclusive, and are not presented within the time granted, they shall proceed to appraisement and settlement according to the invoice, and the person interested in the packages shall pay the account to the custom-house. The master of the vessel or consignee of the ship shall pay as fine three times the amount due the custom-house, without prejudice to paying to the owner of the merchandise its value and the duties paid. This payment shall be made by the master himself, or the consignee of the ship."

ART. 41. Section 4 of article 192, shall read: With respect to the steamers of the lines established in the Pacific and Ecuadorian ports, the following regulations will be established: These vessels, when not engaged in the coast trade, can continue their voyages after having once concluded unloading and embarking, without submitting to formalities to which other ships are subjected, respecting the cancellation of the manifests and the registers. The respective consignees, who should have powers of attorney from the company in order to answer as true agents, remain responsible for proved charges made by the chief of customs. And to the same article add the following section: Whenever engaged in coast trade between the ports of the Republic, they are obliged to close the register before leaving, they will receive a closed register from the custom-house at the port of departure, which the master shall deliver to the custom-house at the port of destination.

ART. 42. In article 134, for "administrator," substitute "commander of the coast guard."

ART. 43. Article 137 is repealed as unnecessary.

ART. 44. To article 141 add: They (the goods) shall also be confiscated when they have been carried away without the respective export permit, after the administrator at the port of arrival has demanded an explanation from the administrator at the port of departure.

ART. 45. At the end of article 129 insert the following section: Steamers failing to comply with their itineraries in their voyages shall pay a fine of 50 sucres for each day's delay. This fine will be imposed and collected by the administrator, who shall be responsible therefor.

ART. 46. Article 153, in place of "within two years" shall read, "within the peremptory term of one year," and what follows in the law and in the section in the place of "at the completion of the two years" will read, "at the completion of the year," etc.

ART. 47. Article 157 shall read: Inflammable or combustible materials shall be cleared from the custom-house on their arrival in port, except in Guayáquil, where, if the owner does not demand their immediate clearance, they will be deposited in the fireproof warehouse. To this add the remaining provisions of this article of the law.

ART. 48. Articles 170, 171, and 172 are repealed.

ART. 49. To the General Regulations add an article which reads: When a merchant can not give a detailed list of his goods through lack of an invoice, or from not knowing the contents of the packages, he may, within the period of six working days after the arrival of the vessel, request from the administrator that the invoice of the merchandise be made up by the comptroller and examiner, on the payment of from 5 to 20 sucres, a sum which shall be fixed by the administrator in proportion to the labor caused by the clearance, and which shall accompany the petition. The administrator shall cause the goods so invoiced to be cleared, with an examiner different from the one who made out the invoice.

ART. 50. In the chapter "temporary provisions," insert an article which reads: The Executive shall in the shortest time possible issue a new edition of the customs law, including all these amendments, and inserting the changes corresponding to the numbering of the articles, especially the modifications with respect to uniting the custom-houses assigned to the provinces of Guayas, Canar, Loja, and Tungurahua. Another article shall read: The Executive shall issue as soon as possible the general harbor regulations, based on the regulations for Guayaquil of the 1st of May, 1862, and this law shall be printed together with the customs law.

ART. 51. The consular invoices, which are to go to the proper ministry, shall immediately be transmitted by the latter to the tribunal of accounts, where the respective register shall be prepared.

ART. 52. The present law shall begin to take effect on the 1st day of January, 1895.

TAX ON SUGAR AND FOREIGN LIQUORS IN ECUADOR.

I have the honor to inclose a translation of article 2 of a law passed by the Congress of Ecuador at its last session, dated August 18, 1894, which imposes for certain charitable purposes a tax of 5 cents on every quintal (100 pounds), of sugar manufactured in the country or imported from abroad, and an import tax of 2 per cent on all foreign liquors, excepting wines.

The remaining articles of the law make certain dispositions of the products of the lotteries, and are of no general or commercial interest.

EDWARD H. STROBEL,
Minister.

QUITO, *November 2, 1894.*

[Translation.]

ARTICLE 2. The following funds are also appropriated for the commission (of charities):

(1) Five cents on every quintal (100 pounds) of sugar manufactured in the plantations of the coast, or imported from abroad.

(2) Two per cent on the importation of foreign liquors, except wines.

CHANGES IN THE PERUVIAN TARIFF.

I send herewith translations of two supreme decrees issued by the President of Peru on the 30th and 31st of October, 1894, taken from El Nacional of November 3, 1894, affecting the customs duties.

J. A. McKENZIE,
Minister.

LIMA, *November 3, 1894.*

[Translation.]

Whereas, such goods as at the present moment are exempt from the payment of duties to the treasury should pay a duty essential to the treasury, with a view to compensating not only the expenses consequent upon their dispatch through the custom-house, but also to contribute to the resources of the public treasury.

ARTICLE 1. Coals and such other goods as are exempt from import duties, and are mentioned in article 1 of the act of Congress of December 31st, 1888, shall pay an 8 per cent ad valorem import duty from the 4th of November next at all the custom-houses of the Republic.

ART. 2. Gold and silver in bars, bullion, powdered or coined, and such articles as are imported by persons, companies, or societies, as designated in the act of September 27, 1888, as, also, ammunition for the use of rifle or revolver clubs, as per act of September 22, 1891, remain exempt from the payment of customs dues.

The Minister of State in the Department of Finance and Commerce is charged with the carrying out of this decree, and the publishing and circulating of the same.

[Translation.]

IMPORT DUTIES ON PACKAGES.

Article 1. The import duties on all packages shipped or landed at the ports of the Republic, or that pass the land frontier controlled by the Buena Vista custom-house, including sugar and coal, exempt under the acts of October 27, 1887, and November 25, 1888, shall be paid as follows, viz:

(1) Ten cents of a sol on fractions of weight under 50 kilograms, 15 cents of a sol for such as exceed 50 kilograms, but not reaching 100 kilograms, and 25 cents for every 100 kilograms.

(2) Eighty cents of a sol for every ton of vegetable or mineral coal; pig or wrought iron, including machinery for agricultural and manufacturing enterprises, foundries, hardware, and furniture manufactures, whether naked or cased; raw ores, firewood, and building wood, excepting pine wood and pine planks (boards), which shall pay by the ton measurement; Panama cocoanuts, bark for tanning purposes, hides and bricks.

Art. 2. The following articles, when forwarded from one national port to the other, are exempt: Rice, live stock, coal, horses, dried meat, empty boxes, fresh fruits, common unsweetened biscuits, firewood, Indian corn, samples of every description, lard, rice powder, potatoes and other roots and vegetables, packages shipped or landed at Mollendo under free transit by virtue of the treaty actually in force with the Republic of Bolivia, and passengers' luggage subject to the restrictions as per article 123 of the rules and regulations of commerce, but not such as figure on the captain of the ship's manifest.

The Minister of State in the Department of Finance and Commerce, is charged with the carrying out of this decree, and with publishing and circulating the same.

Consul Jastremski, of Callao, sends the Department two reports dated November 5 and November 12. In the first, he repeats the information given by Minister McKenzie as to the duty on coal, etc., and states that the Peruvian Congress has conferred almost unlimited powers upon President Caceres for the suppression of the revolution. He had already decreed a duty on matches before imposing the duty on coal, etc. Under date of November 12, Consul Jastremski says:

> On the 6th instant, a decree was issued providing for the stamping of commercial and legal documents and papers of well-nigh every description, all the way from 2 centavos to 100 soles. Various penalties are imposed for noncompliance with said decree. Another decree of the same date doubles the duty upon all alcohols, wines, and liquors of foreign production imported into the Republic after January 1, 1895. Other decrees impose internal taxes in certain localities, which I deem unnecessary to recite.

EXPORT DUTIES

I send herewith two printed copies, with translation, of a supreme decree issued by President Caceres on the 30th of October, 1894, in regard to the collection of customs duties in the ports of Peru from November 4, 1894.

J. A. McKENZIE,
Minister.

LIMA, *November 10, 1894.*

EXPORT DUTIES.

[Translation.]

ARTICLE 1. That, from the 4th of November next, inclusive, such articles as are here below mentioned shall pay the respective export duties at the custom-houses of the Republic, as specified in the following:

Cotton, of every description, three-tenths of a cent per kilogram, or 30 cents per 100 kilograms.

Hides of every kind, three-tenths of a cent per kilogram, or 30 cents per 100 kilograms.

Coca leaf, for each kilogram, one cent, or one sol for each 100 kilograms.

Alpaca and vicuna wools, one cent per kilogram, or one sol per 100 kilograms.

Sheep's wool, four-tenths of a cent per kilogram, or 40 cents per 100 kilograms.

White palm or toquillo straw hats, one sol per dozen.

ART. 2. The weights of the above articles, as declared in the shipping policy, shall be verified at the first-class custom-houses, where the accounts are to be made out and the payment of export duties exacted in the same shape and form as in the case of import duties, and the second and third-rate custom-houses shall verify the weights and make out the accounts and require the shippers to give a satisfactory personal guaranty for the amount, signed by a responsible party, this to be sent forward immediately to the respective first-class custom-houses for discharge after payment of the owing duties.

The Minister of State in the Department of Finance and Commerce is charged with the execution of this decree, its publication, and circulation.

CUSTOMS DUTIES OF SALVADOR.

I have the honor to report that the Provisional Government of Salvador issued a decree on the 27th instant, providing that from November 1 all customs duties shall be paid in silver at 100 per cent ad valorem. Importers are permitted to pay 10 per cent in bonds against the custom-house, and obliged to pay 5 per cent in bonds of the "Salvadorean mint." The tax of 25 cents in favor of the La Union Railroad must be paid in silver, as well as 30 per cent of the taxes charged in favor of hospitals and municipalities. The only payment in gold will be the 25 cents tax in favor of the Santa Ana Railroad.

G. J. DAWSON,
Acting Consul.

SAN SALVADOR, *October 31, 1894.*

TARIFF TAX IN COLOMBIA ILLEGAL.

In reference to my report of July 13 last, relating to customs duties,* I beg to inform the Department that the supreme court of the State of Panama has declared that ordinance No. 30, of July 2, 1894, is unconstitutional, because it infringes on federal prerogatives. This practically settles the question, as it is not probable that the supreme court of the Republic of Colombia will reverse this decision. Hence, goods, as heretofore, will be entered at the ports of Colon and Panama, without the 10 per cent ad valorem duty contemplated by the above-mentioned ordinance.

VICTOR VIFQUAIN,
Consul-General.

PANAMA, *November 14, 1894.*

EFFECT OF THE NEW TARIFF IN WESTERN ONTARIO.

The revival of trade in September was very small, probably not more than the usual increase after the summer's dullness. Since October 1, however, the sales of beans and other agricultural products have been very great, though beans, the staple crop in Kent county, are and have been selling for from 10 to 20 cents per bushel less than a year ago, or even last spring, under the old tariff. The total crop is of about the same volume as that of last year, and the quality is as good, if not a little better.

A few cars of barley are being exported, but though of a fine color, the lack of rain during the growing season has made it 2 pounds in the bushel light. As next summer is not likely to be so dry, the acreage in barley will be somewhat greater, as the profit in raising is about the same as beans.

The large stave industry here, with mills in Michigan as well as in Ontario, resumed manufacturing in August, but have been generally compelled to give the benefit of the removal of the 10 per cent duty to the consumer. Many of their contracts, made in the early part of the year, provided that in the event of a reduction in tariff duties, the full amount of such reduction should inure to the buyer. Owing to the uncertainty as to what Congress might do, some American houses bought at a fixed price here, saving on an average 70 per cent of the 10 per cent duty removed. Contracts for 1895, now being made, will show a saving to the consumer of from 5 to 10 per cent. Prices at their Michigan mills are practically the same as at Chatham, and, with only five years' timber ahead to cut from, it is not likely they will go any lower. The capitalists behind this industry are buying timber tracts in the Southern States for future supply.

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*See CONSULAR REPORTS No. 168 (September, 1894), p. 143. The law referred to was an act of the legislature of the State of Panama levying a 10 per cent tax upon all imports into that State.

By an order in council of the Dominion Government, adopted last winter, the duty on American lumber of 20 per cent has been removed in response to sections 676 and 683 of the Wilson bill, and builders and planing-mill owners in this part of Ontario are beginning to buy of American mills. The largest purchase so far made has been 1,000,000 feet of pine by Piggott & Sons, of Chatham and Windsor, at Bay City, Mich. They claim to have saved from 50 cents to $1 per 1,000 feet by buying in the American market, a difference in price they believe to be due to the greater competition and the use of the sawdust and other waste as a fuel in manufacturing salt in the Saginaw Valley. The logs from which this bill was cut came from the Canadian forests around Georgian Bay. They were cut and rafted by American laborers mostly, towed across Lake Huron by American tugs, and sawed in American mills. They are now negotiating for another large quantity in the same market, where, in fact, they expect to procure the bulk of their stock.

Canadians are also beginning to buy yellow pine from the Southern States in larger quantities, finding it especially desirable for flooring, joists, and inside finishing. The freight on this from Alabama is about equal to the cost free on board there, but it answers so many purposes and stands so much greater strain without breaking than white pine of its size that its sale will probably steadily increase. It is certainly a market that the manufacturers of this American product should cultivate, and a reduction of freight rates should be procured if possible.

Besides cherry and walnut, Norway pine, oak; and poplar used here must come from the United States in the future, as the stock in Canada is nearly exhausted. All kinds of American lumber are destined to find a larger yearly demand for them in this market, and if the Canadian duty of 20 per cent on shingles were removed, their sale here would be large. Even now, some are imported from the State of Washington.

EDWIN F. BISHOP,
Consul.

CHATHAM, *November 12, 1894.*

CUSTOMS LIMITS OF GIBRALTAR.

The Queen Regent of Spain has, within the past few days, signed a royal decree regulating the customs service, and especially prescribing measures for the better suppression of smuggling in the neighborhood of Gibraltar. According to this decree, no custom-house will from to-day exist at the Spanish lines (hardly a mile distant from the gates of this fortress), for the entry of foreign merchandise for general traffic, as heretofore. Only small quantities of the necessaries of life will, in future, be allowed entry to meet the most pressing wants of family residents there, subject, however, in all cases to rigid inspection, by paying full tariff and octroi duties.

The Spanish town of Algeciras, at a distance from Gibraltar of 5 miles by sea and 10 miles by land, will, in future, be the only port of entry for general traffic in foreign merchandise throughout this immediate neighborhood, where a custom-house, classed in the first category, exists. Its distance from the Spanish lines and adjoining villages will certainly not favor the general interests of the surrounding neighborhood situated near Gibraltar, so accustomed to obtain its supplies from this market, consisting chiefly in foreign cereals, flour, soap, petroleum, sugar, and many other articles of constant consumption.

These new restrictions on the part of the Spanish Government against Gibraltar, with the ostensible object of preventing smuggling into Spanish territory, and also for more effectually guarding against abuses to the detriment of the Spanish revenue, may somewhat affect unfavorably the general trade of the British colony, and extend to the regular business going on in the products of the United States, especially in the articles of flour, petroleum, and canned provisions, for which there was a constant demand for importation through Spanish lines.

It will, however, be only when existing stocks of merchandise and provisions at the Spanish lines are exhausted that an opportunity will be afforded to form some exact idea as to the final result of this royal decree for the future in connection with the general trade of Gibraltar.

HORATIO I. SPRAGUE,
Consul.

GIBRALTAR, *November 1, 1894.*

AN INTERNATIONAL POSTAGE STAMP.

In the American Machinist of November 8, 1894, there is an editorial calling attention to the existing necessity of an international postage stamp, good for postage in all the countries of the postal union. At present, if a merchant wishes information from a foreign country, in writing to a stranger he is obliged to rely upon the generosity of the latter to pay the postage on his reply. Especially is this fact true in respect to foreign representatives abroad; for example, United States consuls in Europe receive many letters of inquiry, without the inclosure of a stamp good for postage abroad, which, without doubt, many of their correspondents would send if it could be purchased in the United States. It may be interesting to state, therefore, that the German Minister of Posts has been recently engaged upon a design for such a stamp, and has formulated a plan for its adoption by some, at least, of the members of the postal union.

According to the printed statement in a daily journal, the German Government is about to place, or has already placed, its proposition before the other countries interested. The article mentioned seemed to intimate that only certain European countries were expected to enter into the adoption of this stamp. It is to be hoped, however, that the United States will be included. Concerning the design of the stamp, it was stated that the names of all the countries in which it should be current, and its value in their respective currencies, would appear upon its face.

HENRY C. MORRIS,
Consul.

GHENT, *November 16, 1894.*

EDIBLE SNAILS IN EUROPE.*

FRANCE.

Snails are consumed in France in considerable quantities, and the exportations to other countries are not insignificant. The quantity annually shipped to the United States is estimated at 100,000 kilograms (220,460 pounds). In 1893, the quantity brought into Paris was 645,000 kilograms (1,421,967 pounds), of which only about 18,000 kilograms were imported. The sales at the "Halles Centrales" (central markets) amounted to 430,000 kilograms, all but 13,000 kilograms having been of native production.

The edible snails vary greatly in size. Those most esteemed are the large, white ones; the grey ones, one-third smaller, are regarded as much inferior. The prices at the Paris market during 1893 ranged from 17.90 francs to 18.60 francs ($3.45 to $3.59) per 1,000, that is to say, from 79 to 83.70 francs ($15.25 to $16.15) per 100 kilograms (220 pounds). A thousand small snails will weigh from 7 to 10 kilograms (15.4 to 22 pounds), and 1,000 large snails, from 18 to 22 kilograms (39.7 to 48.5 pounds).

The chief seats of the production of edible snails in France at present are the Department of Jura, Côte d'Or, and Basses Alpes. The snails of Burgundy have long been celebrated, but they are no longer produced there on a large scale, the industry having, it is said, been almost destroyed, owing to the treatment of the vines with sulphates. The great majority of the edible snails produced in France are of natural growth, and are picked from the vines in the months of March and April. They are found in immense quantities in various sections. In Provence they thrive famously, especially in the neighborhood of Marseilles, where the chalky formations underlying the soil seem particularly adapted to their life and growth. Mr. Claude M. Thomas, the United States consul at that city, gives the following account of the methods employed in gathering them and preparing them for market:

> In the early morning when there is dew, or immediately after a rainfall, the people who undertake to supply the market, and who, in many instances, earn a respectable livelihood thereby, go into the gardens and marshy places and pick them from bushes where they have

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* The reports, herewith published, from the consuls-general at Paris and St. Gall, were prepared in answer to instructions from the Department, issued at the request of Mr. Roger Cunningham, of Kansas City, Mo., who is experimenting in snail-farming.

crawled, or from the ground, as the case may be, the labor at a distance appearing not unlike that known in Kentucky and Indiana as "gathering blackberries."

Absolutely nothing in the nature of cultivation or propagation, as in the case of oysters, has ever been attempted in Provence, though it is affirmed that at Beaune, in Burgundy, and parts of eastern Switzerland, small farms are devoted exclusively to their cultivation for market purposes.

In Marseilles they are largely consumed at the table, and are looked upon by many people as in the nature of luxuries; certain restaurants enjoy a paying clientage, built up by a reputation for their special preparations of *escargots*. The name *escargot* is that by which the most desirable sort is generally designated, and the edible snail is so universally denominated in this way that, without investigation, one would suppose the term embraces all varieties, or at least all that are of a character adapted to table purposes. A visit to the market, however, discloses the fact that, while the *escargot* is much larger, and in every sense the most desirable, there are two other varieties, known as *limace* and *limaçon*, the former being of medium size and the latter quite small.

When first brought from the garden or field, and while still alive (supposing that they have been secured on the morning of their arrival), they are placed in a bucket, or receptacle of some sort, with top closed, and then kept without food for a period of from five to eight days. Removed from this, they are placed in a mixture of salt and water, or water and vinegar, for perhaps six or eight hours, or longer, if desired, being removed from time to time and thoroughly washed in fresh water. They are then ready for the cooking process, which embraces an addition of most everything that is tempting, which may or may not be for the purpose of making it easy to lose sight of all but the name of the object under consideration.

The artificial culture of snails is carried on to a considerable extent, but with varying success. They are propagated in the months of August, September, and October in *prairies*, or "parks," prepared expressly for the purpose; at this period they roll themselves up and are fed with cabbages, clover, etc. A large wagon load of cabbages, costing 10 francs ($1.93), given after rains, is sufficient to nourish 100,000 snails.

The snails, when in a natural state, scenting the approach of cold weather, enter the ground, and, rolling themselves up, remain in this condition until warm weather sets in. It is the popular tradition that their instinct tells them whether the season will be severe or mild, and that they vary the depth of their descent, accordingly, from 10 to 20 centimeters (about 4 to 8 inches).

The cultivated snails are sheltered during the winter in houses composed of brick or wood. They are gathered in April, May, and June.

In summer, snails are shipped to Paris in perforated cases or crates, without leaves or other green stuff. In winter, the cases are wrapped in thick paper.

The cost of preparing them for the market is greater than the cost of producing them, and causes them to be regarded as something of a luxury. They are dressed with a paste or sauce of garlic, fine butter, etc. The total cost of the production of snails at the place of origin is estimated at from 12 to 15 francs ($2.32 to $2.90) per 1,000; the cost of transportation to Paris at from 4 to 6 francs (77 cents to $1.16) per 1,000; average for all sizes, 5 franks (96½ cents) per 1,000. The cost of preparing for market in Paris is from 10 to 20 francs ($1.93 to $3.86) per 1,000. The retail price of prepared snails in this city is 60 centimes to 1 franc (11½ to 19.3 cents) per dozen.

The snails exported to the United States are of the finest quality, and cost from 24 to 25 francs ($4.63 to $4.82) per 1,000. They are exported alive, rolled up naturally. The shipments are chiefly made in November and December. The prepared snails are not exported. The time occupied in transportation to the United States is a serious factor in the traffic.

The most extensive cultivator of snails in France is, as I am advised, M. Gros, of Orgelet, department of the Jura, whose annual output ranges from 1,000,000 to 2,000,000 snails. Among the chief exporters to the United States are M. Dupont, No. 5 Rue Pirouette, Paris, and M. Vidal, No. 11 Boulevard de Charonne, Paris.

The information given in the foregoing was derived from dealers and from official sources. Especial acknowledgment is due M. René Saint Martin, "Inspecteur Principal des Perceptions Municipales," Halles Centrales, Paris. The statistics were derived from "Le Rapport Annuel de l'Année 1893" (Direction des Affaires Municipales sur les Services Municipaus de l'Approvisionnement).

SAMUEL E. MORSS,
Consul-General.

PARIS, *July 6, 1894.*

SWITZERLAND.

The business of snail-gathering in Switzerland is one which has within the past five years assumed increased importance. Originally the business was confined to the monasteries. The monks collected the snails found in the vicinity of their cloisters and ate them as a delicacy. In time of want and famine, however, instead of a delicacy, snails became, for the monks, the chief article of food. In 1792, according to the kitchen accounts of the monastery of St. Gall, 5,500 snails were purchased by this institution from collectors in the Rhine valley. In 1844, the Capuchin cloister in Appenzell maintained a garden containing from 12,000 to 15,000 snails.

The kind of snails thus gathered is found in all parts of Switzerland—in the cantons of Wallis, Waadt, Neuchatel, Bern, Freiburg, Aargau, Zurich, St. Gall, and Appenzell. Its scientific name is *Helix pomatia.*

At the present time, the method of obtaining snails in Switzerland is the old and simple one of gathering them from the fields and forests, the forest snails being considered the best. They are, as yet, not regularly propagated to any extent. As the demand for them increases, however, propagation will be resorted to. Already, one collector—Mr. Roman Seiler, of Aarburg, Canton Aargau—has begun to breed them.

The method of preparing snails for the market is substantially as follows: A piece of poor meadow land is chosen, lying toward the north and having in it a few trees. Land on the edge of a forest which the sun does not strike before 10 o'clock a. m. is the most suitable. The soil of this meadow must either contain lime, or burnt lime and sand must be strewn over it. It is also of advantage to spread over any large rocks in the field a wash of lime. Around this pasture, thus prepared, it is necessary to build a tight fence, about eighteen inches high. The inside and top of this fence must then be washed with some very rancid oil or iron vitriol, so that the snails may not crawl over it and escape. A row of nails set in the top of this fence will answer the same purpose as the wash of oil or vitriol. A plot of ground, 2 square yards in area, will accommodate 1,000 snails. For 20,000 or 25,000 snails, a plot 50 square yards in area is necessary.

The time for gathering the snails is from the middle to the end of July, after their eggs have been laid. As fast as gathered, they are placed in the meadow or snail garden. Loose moss is then strewn along the fence, or else a low awning of boards constructed, under which the snails may escape from the too great heat of the sun. The trees in the pasture also are of great service in affording shade.

During dry weather, the snails need not be fed, but with the coming of rain food must be provided. This may consist of salad, cabbage, kitchen waste, or wheat bran. The lion tooth, the common nettle, and field hemp may also be used. A prepared food can be bought, which is excellent, and causes the snails to fatten rapidly. In the latter part of August, or early in September, the whole pasture must be loosely covered with moss, under which the snails secrete themselves until the time of removal for market, which is the beginning of cold weather, and after their shells are matured. None are kept through the winter.

The quality of the snail in the market is determined by the appearance of the shell. If this is glossy and well rounded, the snail is known to be fat and good.

In order to be shipped the snails are packed in wooden cases or barrels, from 1,000 to 2,000 (sometimes 5,000) in a single package. The material to be used for keeping them apart is hay or fine shavings. Snails can be shipped with safety only in cold weather, as, when the weather is warm, they emerge from their shells and by their combined pressure burst open the strongest cases.

From Switzerland, snails are sent to Belgium, France, Italy, and Holland. The most of them go to Paris. I can not discover that any are shipped to the United States. Mr. Roman Seiler (the gentleman already alluded to as experimenting in the breeding of snails) writes me that five years ago he sold with difficulty 84,000 snails, but that in 1893 he could have disposed of one hundred times as many. On all sides, the demand for snails, as an article of food, is increasing. The wholesale price of snails in Switzerland is about 24 centimes (5 cents) a dozen. In Paris, it is about 36 centimes (7 cents). Zurich is the canton from which snails are chiefly exported.

As regards the introduction of snail-breeding into the United States, the following may be said:

(1) It is by some thought doubtful whether live snails can with safety be shipped so far. Director Bernard, of the Rorschach (canton of St. Gall) preserving establishment, thinks, however, that, in cold storage, they can be shipped alive and in good condition, even to the United States.

(2) It is the opinion of experts here that pickled snails can not profitably be handled, as the snail when pickled, loses its fine flavor—the chief thing about it which commends it as an article of food.

(3) The conclusion here is that the *Helix pomatia* is not found in the United States, and that it may be of doubtful utility to Americans to introduce it. It multiplies at an enormous rate, and destroys vegetation without mercy. In this connection the unhappy fate of Australia with the rabbit is recalled.

Of persons in the snail business in Switzerland, many addresses could be given. Two are given herein, to wit, Roman Seiler (teacher), Aarburg, Canton Aargau, and J. Schneider (teacher), Altstätten, Canton Zurich.

From a letter written me by Mr. Roman Seiler, of Aarburg, I extract the following:

> More and more, the snail is looked upon as a very delicious and nourishing food. With the exception of a few very insufficient short articles, there exists no literature of any kind pertaining to snails. I became familiar in this line exclusively by my own observations. Last spring it was my intention to issue a little book on this subject and to make use of it at the projected agricultural exposition. The manuscript, of about twenty pages, I had already finished, when, on account of the extreme dry season, the exposition was postponed for two years. I think the little work will have about thirty pages when completed, and will contain everything distinct and clear as to breeding, etc.
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> Last year, the question was asked from New York whether the snail was considered a delicious food or a medical remedy. This only shows that the article is not known in the United States. By many farmers and hunters who have returned from the United States after living there for many years, I have been told that the *Helix pomatia* could not be found in the United States. A clergyman from Texas has written to the same effect. I earnestly believe that, up to this hour, neither a living nor a prepared *Helix pomatia* has been exported to the United States. Last year I sent to the Natural History Institute (Linæa), in Berlin, an article which was quite new to the post department, namely, snail eggs, for which they were very thankful; and since that time, at the request of the said institute, I have been working at an important question concerning snails, part of which I have been able to solve already.
>
> In Switzerland, there are a few so-called snail-breeders, but in reality none of them are real breeders. They all do as I have done for five years—simply gather up the snails where they find them and throw them into a so-called snail garden, where they are fed, until fall, on the leaves of different kinds of cabbage, and also on wheat bran. They can then be gathered in a shell-covered condition. But as snails are gathered more and more every year, they naturally become scarcer, and the time may not be far distant when actual breeding will have to be carried on. All the now existing so-called snail-breeding concerns are in fact nothing more than collection and fattening gardens for snails gathered up in the fields.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *March 14, 1894.*

THE KOLA NUT.

The Department on August 18, 1894, instructed the consuls at Bathurst, Gorée-Dakar, Monrovia, Mozambique, Sierra Leone, Tamatave, and Zanzibar to investigate and report upon the kola nut in their respective districts—its cultivation, the trade therein, and its ascertained value as a substitute for ordinary food.

The following reports from the consuls at Sierra Leone, Tamatave, and Zanzibar, are in reply to the foregoing instructions. No replies have been received from the consuls at the other places; when received, they will be published at once.

SIERRA LEONE.

Referring to instructions from the Department, under date of August 18 last, I have the honor to state that, with the view of obtaining the best and most reliable information on the subject-matter, I immediately addressed the administrator of this colony, and have the honor to inclose his reply, received to-day, which contains all the information at present available, from public sources, on the subject of the growth, output, export, and value of kola nuts, as regards the colony of Sierra Leone.

GOVERNOR CARDEN TO CONSUL POOLEY.

GOVERNMENT HOUSE, FREETOWN, SIERRA LEONE.
October 16, 1894.

SIR: In reply to your letter of the 17th ultimo, asking for certain information respecting kola nuts, I have the honor to forward herewith copies of memoranda by Mr. Spaine, the colonial postmaster, and Mr. Faulkner, the assistant colonial secretary, on the production, output, export, and prices of this article, which, I trust, will meet your requirements.

The "broad leaf," mentioned in the assistant colonial secretary's memorandum, I understand, belongs to the natural order of the malvaco and is known in the West Indies and South America by the name of "Bal leaf."

I have, etc.,

F. CARDEN,
Administrator.

ASSISTANT SECRETARY FAULKNER TO GOVERNOR CARDEN.

Herewith is a memorandum, made by Mr. Spaine, the colonial postmaster, respecting the production of kola nuts. The kola tree produces the nuts in pods containing from three to eight nuts. When full, the pod changes from a green to a red-brownish color, and, if not picked in time, dehisces or falls to the ground.

The nuts, when collected, are laid by for a few days to allow the skin to soften, so as to admit an easy removal when washed.

The nuts are exported in two ways, viz, fresh and dry. To keep it fresh, care should be taken that the nuts are properly washed with clean, fresh water, not a particle of the decayed skin being allowed to remain on them. After the water has drained, the quantity for shipment is put into a cane basket, inlaid with a kind of broad leaf peculiarly adapted to keep the nuts fresh for a considerable time—say, three months and more—and to keep away worms, which are very destructive to the nuts.

To export it in the dry state entails no trouble. After getting off the skin, by washing, the nuts are split into pieces and dried in the sun, after which they are shipped in ordinary packages, and, so long as kept dry, are not subject to deterioration. The fresh nuts are sold in Freetown at from £3 to £6 ($14.60 to $29.20) per measure, equal to 1½ bushels.

The kola nuts are principally exported to the following places, and those exported from Sierra Leone in 1893 were as follows:

Whither exported.	Quantity.			Value.	
	Cwts *	*Qrs.*	*Lbs.*		
Gambia	5,552	2	7	£24,130	$117,416.58
Dakar	1,518	0	14	5,921	28,811.59
Gorée	694	1	2	3,055	14,865.63
Senegal	928	0	18	4,471	21,755.89
Windward coast	291	1	0	1,164	5,664.02
Rufisque	221	2	24	896	4,359.94
Other places	147	2	0	468	2,277.28
Total	9,353	2	9	40,105	195,150.93

* 1 cwt.=112 pounds.

POSTMASTER SPAINE TO ASSISTANT SECRETARY FAULKNER.

The kola nut is grown from the nut itself. It should be planted when the nut is fresh, and not in the dried condition in which it is exported to European markets.

Raw kola nuts should be planted in nursery beds, the same as coffee seeds. They will begin to shoot in about five weeks and produce leaves in a week after. It grows with some rapidity in its early stage, and in less than four months, if regularly watered, the plant will be fit for transportation. Its growth after this is slower, according to the nature of the soil. The kola likes a moist, but not damp, soil and thrives best by the side of running brooks. Lands with a flat-rock formation a few feet below the soil will not do, but a loose, porous soil, with a great depth of earth and a clay or sand formation below, will do very well. With a liberal supply of manure and water, during the dry season, the kola tree will come to maturity and bring forth fruit in five years. Where the conditions are less favorable, the tree will bear fruit two or three years later.

I may add to the foregoing, from personal knowledge, that the natives here, and at Bathurst, Gambia, eat the nuts in the early morning, as a stay against the wants of ordinary food while traveling, and in the evening to induce sleep. Altogether they consider that a general benefit to the human system is derived from the consumption of the kola—say a single nut morning and evening.

ROBERT P. POOLEY,
Consul.

SIERRA LEONE, *October 16, 1894.*

TAMATAVE.

The kola nut is utterly unknown in Madagascar. In reply to a query recently put to the Episcopal Bishop, Right Rev. Kestell Cornish, I was informed that, about five years ago, he was requested by some of his English friends at Antananarivo, to procure for them some kola nut seeds at Zanzibar, which he was unable to do, the nut not even being known there. His son is British consul at Zanzibar, and would have been able to procure the seeds, were they procurable at that place, owing to its great British-India population.

The nut may be indigenous here, but known by some other name in Madagascar and East Africa generally. If, through correspondence with missionary botanists, I can secure any information of value relative to the kola nut, I will transmit the same at the earliest opportunity. I am sure, however, that Sierra Leone and the West African coast are its great emporiums.

EDWARD TELFAIR WETTER,
Consul.

TAMATAVE, *October 8, 1894.*

ZANZIBAR.

The kola nut tree does not grow on this island, or on the East African coast in this vicinity; neither is it imported into Zanzibar.

J. W. ALLEN,
Consul.

ZANZIBAR, *September 21, 1894.*

THE LACE INDUSTRY OF FLANDERS.

People of the present age are losing their appreciation of artistic skill and hand labor, whose products were so highly prized by previous generations. In most branches of industry, machines have supplanted the fingers; set patterns have succeeded individual tastes. Still, in some few articles, especially those which pertain to luxury, the machine continues to be at a disadvantage. The art connoisseur prefers the oil painting to the photograph or lithograph, even though the subject may be equally beautiful. It is likewise true of lace. The genuine handmade article enjoys an irreproachable reputation. Indeed, only by close imitation is machine-manufactured lace able to-day to obtain a market for the sale of its finer qualities. The purchaser, sooner or later, learns to his regret the deception which he has suffered, for it is a fact generally admitted that lace manufactured on the machine is much less durable than that made by hand. The object of this report is especially to call attention to the small importation of real lace into the United States from the district where it is made. If this trade may be revived or indirectly benefited by the brief statement which follows, it will prove that want of knowledge, not want of appreciation, has heretofore been the reason of its decadence.

Lace may be classified as handmade or real and machine made or imitation. My consideration will be directed only to the real lace, as the imitation is not manufactured anywhere in this consular district. Handmade lace must again be subdivided into laces *à l'aiguille* and *aux fuseaux.* The former, as its name indicates, is made by the needle. First, a foundation framework of threads is constructed, and then the special design is filled in.

Lace *aux fuseaux* was formerly made by means of the distaff, and, even now, in some remote localities, this ancient hand machine is found; generally speaking, however, the lace is made on a cushion, the threads being wound off small bobbins around a multitude of pins, thus forming the design.

Flanders contests with Italy the honor of having invented lace. It is quite well established that lace existed before 1600. Reasons for the early superiority of Flemish laces and their subsequent renown are not lacking. The quality of flax produced in the two provinces is unsurpassed; then, the damp climate is favorable to the proper texture of the lace; the patient industry of the peasant women and the low wages of labor have also aided; and, perhaps more than any other cause, the prevalent convent life, where even to this day thousands of young and old women are employed in producing lace, which they are always ready to sell at nominal prices. Throughout three centuries, certain convents have preserved their renown for certain qualities and designs. To obtain the best at the cost prices, the purchaser must go where the lace has been produced for several generations. The manufacture of almost all the variously named laces has been introduced into Flanders, and has here been brought to perfection. In many towns of Belgium, schools still exist where girls are taught, from the age of five years, the fabrication of lace work. When ten years old, they are able to earn their livelihood.

Valenciennes.—Of all laces, *aux fuseaux,* that known as Valenciennes, is perhaps the most generally produced in Flanders. It was introduced in the seventeenth century. Ypres commenced its fabrication in 1656. In the year 1850, there were 20,000 women employed in the vicinity of that city in its production. Ypres produces this lace in a most beautiful quality and workmanship. For a design two inches in width, 200 or 300 bobbins are required. For the widest patterns, at least 800 different threads are used. To-day, the Belgian monopoly in this article amounts annually to several million francs. The other principal centers of the manufacture of Valenciennes are Bruges, Courtrai, and Menin, in West Flanders, and Ghent and Alost, in East Flanders.

Black lace.—The city of Grammont is also famous for its production of black lace.

Guipures de Flandres.—This lace had a great success in the seventeenth century. It is especially suitable for furnishing purposes. It is even yet extensively employed for the decoration of curtains, bedding, and table linen. Bruges is the chief center of its manufacture. The finer guipures, for personal wear, are known as "Honiton" and "guipure duchesse."

Application d'Angleterre.—Flanders received from England the original idea of this design, but by improvement and alteration, it became entirely adopted in this country, although still known under its original name. Still other varieties are known under the general title of *Dentelles d'Application.* Brussels, Ghent, and Alost remain without rivals in these laces.

THE LACE MARKET.

American merchants may be assured that they can purchase in Flanders the finest qualities of duchesse, Valenciennes, guipures, and torchons, in flax or cotton, at the most advantageous prices. Their attention should certainly be directed to the producer. The present method employed by most American houses is to purchase their stocks in Brussels; but they should always remember that they are paying for this privilege the fancy profit of a superfluous intermediary. There are said to be about 60,000 persons employed in the making of lace in Belgium; the majority of them live in the two provinces of Flanders and sell their work to the local merchants in business at Ghent, Bruges, Courtrai, Ypres, and other towns. Of these dealers, there are about 375. Many of them have as good stocks and as great a variety as any house in Brussels. I think any observant person will be convinced of this fact by their exhibits at the Antwerp Exposition. They are in a position to sell cheaper, and they do, as a fact, offer similar qualities at several per cent less than their Brussels rivals.

EXPORTS OF LACE TO THE UNITED STATES.

The following statement gives the values of lace exported to the United States from this consular district during the past five years:

1889	$80,291.60
1890	89,902.11
1891	67,641.26
1892	47,305.70
1893	34,539.76

The question arises, why this marked decrease in the exportation of lace to the United States? The reasons are obvious. The increase of duty under the tariff act to 60 per cent, indiscriminately upon machine and handmade laces, certainly has acted as a bar, even though handmade lace is not made in the United States. Another potent reason is in the prevailing custom of Americans to go to a center to purchase. They are willing to pay dear at Paris, London, or Brussels, for that which they might buy cheap in the country districts of its origin. The following table of importations of lace from different consulates into the United States proves this.

Importation of machine and handmade lace goods into the United States during the year ending June 30, 1893.

From—	Value.	From—	Value.
Annaberg	$67,380	Nottingham	$3,568,214
Brussels	234,153	Paris	332,000
Caudry	77,379	Rouen	2,101,000
Ghent	47,305	St. Etienne	188,000
Glasgow	226,600	St. Gall	125,556
Manchester	416,797		

Another interesting fact is to be deduced from these figures. Most of the lace sent from Annaberg, Glasgow, Manchester, Nottingham, Rouen, St. Etienne, and St. Gall is probably machine made. It amounts to $6,693,547; that imported from Brussels, Caudry, Ghent, and Paris is mostly handmade; total, $690,837. These figures are significant—the United States use machine-made lace to the amount of $6,693,547, and handmade lace to the sum of $690,837 per annum. The probability is that a very large proportion of machine-made lace is sold to the consumer under the belief of its genuineness.

BELGIAN LACE EXPORTS.

After these figures, it is instructive to turn to the statistics of exportations of Belgian lace to various countries. The following tables indicate this exportation for the five years preceding 1893:

Destination.	1888.	1889.	1890.	1891.	1892.
Silk lace goods.					
France	$18,856.29	$25,525.02	$10,228.61	$23,247.43	$14,840.74
Great Britain	19.30	57.90	....	....	6,570.29
Holland	1,158.39	1,203.74	248.19	634.39	2,057.58
Germany	57.90	....	....	19.30	2.89
United States	....	....	186.06	665.85	....
Other countries	....	3.86	113.87	4,199.68	357.43
Total	20,091.88	26,790.52	10,776.73	28,766.65	23,828.93
Flax lace goods.					
France	35,869.63	30,608.64	27,278.99	61,797.83	188,786.81
Great Britain	2,277.66	347.40	....	115.80	5,438.16
United States	....	96.50	6,967.30	579.00	3,425.75
Holland	490.41	3,050.94	1,047.22	2,140.94	2,501.47
Germany	115.80	....	77.20	....	....
Switzerland	357.05	....	....	....	....
Other countries	....	9.65	506.62	194.93	....
Total	38,110.55	34,113.13	35,872.33	64,828.50	200,152.19
Other lace goods.					
France	62,288.63	47,529.53	50,858.00	81,378.83	79,744.76
Great Britain	23,189.53	15,801.29	28,127.44	21,366.84	21,897.09
Holland	495.50	3,903.24	2,016.46	3,372.87	1,568.32
Germany	181.03	1,095.28	746.91	2,365.79	1,229.41
United States	1,293.10	2,656.25	2,031.71	4,699 55	926.40
Italy	....	....	366.70	221.95	237.39
Argentine Republic	579.00	....	2,895.00	....	....
Switzerland	412.44	....	....	....	....
Other countries	395.65	1,564.26	9.65	41.30	352.99
Total	93,293.88	72,549.85	87,051.87	113,447.13	105,756.28
Recapitulation.					
France	117,014.55	103,663.19	88,360.60	166,424.09	283,172.41
Great Britain	24,486.49	16,206.59	28,127.44	21,482.64	33,905.54
Holland	6,603.30	8,157.92	3,311.87	6,148.20	6,127.37
United States	1,293.10	2,752.75	9,185.07	5,944.40	4,352.15
Germany	354.73	1,095.28	824.11	2,385.09	1,232.30
Argentine Republic	579.00	....	2,895.00	....	....
Italy	....	....	366.70	221.95	237.39
Switzerland	769.49	....	....	....	....
Other countries	395.65	1,577.77	630.14	4,435.91	710.42
Total	151,496.31	133,453.50	133,700.93	207,042.28	329,737.40

It is evident that the direct importation to the United States, as compared with the quantities sent to England and France, is petty. It is, however, probable that considerable quantities of Belgian laces are purchased by Americans in the London and Paris markets, and that, in this manner, they find their way to the United States.

Why should our merchants not follow the example of their English and French colleagues? Why do they not place their orders in Flanders, in the home of the lace-makers, where its manufacture was invented and has always flourished?

HENRY C. MORRIS,
Consul.

GHENT, *May 23, 1894.*

ARTIFICIAL SILK IN ENGLAND.

A company is now being promoted in Bradford for the manufacture of artificial silk. As patents have been taken out in the United States, and as it is proposed either to establish there a company under the direction of the inventor or to sell the American rights, I have gathered such information as I could obtain for the benefit of those who may be interested. If the fond hopes of the inventor—Dr. Friedrich Lehner, of Zurich, Switzerland—are realized, the princely position of the silkworm is usurped; the poor insect will not be worth the mulberry leaves on which he feeds, for his gauzy web will be produced chemically from base and ignoble materials. In order to make the usurpation more complete, a false worm of glass, spinning a thread which is wound in an artificial cocoon, is brought upon the scene.

At the office of the company in this city, there is shown daily the "spinning frame" in operation, and one can see the liquid contents of a pot on top of the frame turned instantaneously before his eyes into what appears a pure silken yarn or thread. The process may be briefly described as follows:

All vegetable fibers, such, for instance, as wood, flax, cotton, and jute, may, by a process of digestion, *i. e.*, treatment by acids and alkalies, be reduced to what, in the commerce of chemistry, is known as cellulose. In other words, they become mere cellular tissue—the substance secreted by the living protoplasm of a vegetable cell in order to form its investing membrane or cell wall. Cellulose is indeed made from wood pulp, the debris from cotton, jute, and other spinning industries, etc., for a variety of commercial purposes, and it is this material which is the basis of artificial silk. By direct combination with nitric acid, it is converted into nitrate, and if a small quantity of sulphuric acid be also added, the latter combines with the water, and, to use a well-understood chemical phrase, "splits off." The highest nitrates of cellulose—explosives—are insoluble in alcohol ether. It is these nitrates which, in various forms of modern explosives, are familiar as cordite, tonite, etc. The pyroxylin nitrates or lower nitrates are less explosive, and are soluble in alcohol ether. Ordinary pyroxylin dissolves in alcohol ether (equal parts of alcohol and ether), and is gelatinous in character, but wanting in viscosity. In other words, it will not, though a semifluid, flow freely; it is, in fact, not unlike good melted fish glue. Everybody knows from experience how, in drawing the brush from the glue pot as the glue is getting cold, long strings of fibers may be produced. A solution containing, say, more than 7 per cent of cellulose is, however, too gelatinous to be readily workable. It is at this point that Dr. Lehner's special treatment of the pyroxylin comes in. By the addition of dilute sulphuric acid to the alcohol ether solution, he breaks down the nitrate into bodies of different physical, but of the same chemical character, and, consequently, is able to obtain 12 per cent solution, which is perfectly fluid and workable under the simplest conditions.

The process of the preparation of this fluid is a purely chemical one. It is in the subsequent treatment of the fluid and its conversion into a textile fiber that the main interest centers, from an industrial point of view. This process is shown in operation upon a machine which is a modification of the ordinary flyer spinning frame. The fluid—a muddy, yellowish substance—is contained in a glass jar from which it is conveyed through pipes to a row of small bent glass tubes,* each having an extremely fine nozzle or orifice. These tubes are arranged in a shallow trough of water, the orifice being beneath the water level. As the fluid leaves the nozzle, the water removes 60 per cent of the solvent, and the fluid immediately coagulates and is drawn off in a remarkably fine filament of brilliant luster, and, when dry, of great tenacity. Half a dozen such filaments are gathered together and spun precisely as silk or wool are spun, only without the drafting arrangement, and at a speed in accordance with the twist required. In passing through the spinning frame, it rapidly dries and becomes quite solid, and in the process of drying, the remainder of the solvent is removed. The yarn on the spools is practically indistinguishable from true silk, except by microscopic or chemical examination. It is, however, in this condition when perfectly dry, a highly inflammable substance, and it therefore requires to go through a third process—that of denitration, in which, by a well-known treatment by ammonium sulphide, the nitrate acid is extracted, after which, when the yarn is again dried, it is practically noninflammable. It is, indeed, less inflammable than cotton or rhea. Chemically, the yarn, when denitrated, approximates very closely to silk itself. The lustrous character of the material depends upon its transparency and its cylindrical construction. Cotton is not lustrous, because, although tubular, it is composed of a flattened membrane which so breaks up the light that it appears to be quite dull. Flax, also tubular, is much more lustrous, and silk, which is a double tube, is comparably beyond flax in this quality. The yarn can be spun to any thickness of count, and a thread, it is claimed, is of even diameter throughout, unbroken, and it may be produced of unlimited length. Indeed, once the spinning frame is properly started and given a continuous supply of the cellulose nitrate, the operation of spinning is practically automatic, and may be continued indefinitely. It is, in fact, proposed that the manufacture of the yarn should be carried on without intermission. The process being chemical and mechanical, it goes without saying that no special conditions as to climate or temperature are involved, and the costs for labor and power are relatively so small compared to that of the chemical and other materials used that the whole commercial question turns upon the value of these materials and of their economic manipulation. Hitherto, although the process has been carried long past the experimental stage, it has been carried on more on the scale of the laboratory than of the manufactory, and it is obvious that with well-designed mechanical appliances and apparatus and a manipulation of chemicals on a large scale, very considerable savings may be made. The specific gravity of Lehner's silk differs but little from that of natural silks in the "boiled-off" condition. Samples of the material have been submitted to various tests in Bradford.

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*Samples of these tubes and of the silk fiber mentioned in this report were transmitted to the Agricultural Department.

The promoters of Dr. Lehner's process in England propose to establish a company with a capital of $540,000 in shares of $50 each. I do not know whether all of these shares have been subscribed for or not, but a representative of the company informed me that satisfactory progress had been made. At the offices in Bradford, a reception has been given to journalists, manufacturers, chemists, and capitalists which was attended by the representatives of the various classes of professions from all quarters of the United Kingdom.

Samples of yarn, furniture, fringes, and braids, brocaded silk handkerchiefs, pongees, gimps, sewing silks, etc., dyed in a great variety of shades, were inspected and handled by many gentlemen well able to estimate their commercial value, and the general opinion as to the brilliancy of the effects produced was favorable. The artificial silk materials will stand washing and ironing without losing their luster, or without any impairment of their colors.

It should be stated that the manufacturers and textile experts of Bradford have no confidence in the usefulness and practicability of the new process. It was offered to the Manningham Silk Mills (Lister & Co.), the largest silk manufactory in England, before it was introduced to the general public, but they declined to recognize its utility. I have questioned a dozen others whose experience in the trade ought to make their opinions valuable, and they have, without exception, stated their belief that the invention would not prove a success.

It must be remembered, however, that gentlemen already successful and established in business on certain lines are not always likely to look with favor upon innovations. The fact that they do not favorably regard the Lehner invention should not therefore influence others against it until they have given it a trial.

While the inventor claims a high degree of merit for cloth woven entirely from the artificial silk yarn, the special claim made for it is as an economic factor in mixing with genuine silk. Most of the samples now shown are of pure natural silk and artificial silk, the warp being genuine and the weft artificial. In other words, the artificial silk would take the place of wool or cotton in a mixed fabric. The artificial silk can be produced at a remarkably low figure, both as to raw material, labor, and machinery, and it is therefore in the matter of economy in producing a fairly good article that it claims consideration.

Manufacturers have expressed doubts that it could ever be produced in quantities sufficient to make it a great factor in trade, though they say it may enjoy a limited consumption as a weft with other material as a warp.

The Bradford Conditioning House, in "conditioning" samples submitted by the company, rendered this report:

(1) The samples submitted to me are purely artificial, containing no filaments of pure silk.

(2) The relative strength, compared with Italian pure silk of the same counts (4,010 yards to the ounce), is as 68 to 100.

(3) Pure silk has but little elasticity, and when stretched, does not go back to its original length; neither does the artificial silk, but its stretching quality (before breaking) is as 73 to 100, relatively.

(4) Taken as a denier, measure for measure, the relative weight of the same average diameters of pure and artificial silk is 7.25 per cent more in the latter.

(5) The artificial silk is much evener in counts (taking twenty tests of ten yards each) than any pure silk.

(6) The denitrated artificial silk takes the dye in all shades perfectly even and brilliant.

Dr. Lehner is not the first man to believe he has solved the problem of artificial silk. Years ago, companies were formed to manufacture silk by the "Chardonnet process." Commercially, the product of this process proved unsatisfactory. Lehner claims to have avoided rather than to have overcome the difficulties which beset Chardonnet.

CLAUDE MEEKER,
*Consul.**

BRADFORD, *August 14, 1894.*

THE SILK INDUSTRY OF SWITZERLAND.

From the different reports on the result of the production of silk in 1893, which have just come to my notice, it appears that the industry in the year mentioned was not a prosperous one. Though the amount of production did not fall much, if any, below that of 1892, the great variation in the price of the raw material, the financial crisis in the United States, and other causes, combined to make the "campaign," as it is called here, a very unremunerative one. The mills were running mostly at full time, but not to the satisfaction of either the owners or operatives; in fact, it is claimed that a large part of the output has been disposed of below the actual cost of production.

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* Under date of October 10, 1894, Consul Meeker writes to the Department inclosing a sample of mixed silk and cotton. He says: "This cloth was produced by the Manningham Silk Mills (Lister & Co., limited), in experimenting. One half of it, marked with a colored piece of silk, is composed partly of artificial silk made by the Lehner process at the mills in question. The warp is cotton and the weft of the celluloid silk. The other half is cotton warp and natural silk weft. The cost of production of the artificial piece was only one-half the cost of the natural article. The natural, however, weighs twice as much as the artificial. The two pieces woven together give a good opportunity for comparison." The sample has been filed with the report at the Department of State.

While the export to the United States during the first six months of 1893 greatly exceeded that of the same period in 1892, it dwindled considerably in the last half of the year, and the sales were made at exceedingly low, and, in many cases, almost ruinous prices. This state of affairs still continues, no improvement being noticeable so far. It may be assumed, however, that it is not due solely to the business stagnation in the United States, but, at least in part, to the rapid increase and development of the silk industry in the United States.

In regard to the business of 1893 and the present outlook, the annual report of the Commercial Association (*Kaufmännische Gesellschaft*) of Zurich says:

> To find an equally unsatisfactory year, we have to go back as far as 1857, the year of the ill-renowned commercial crisis. Even the period of 1876–'77, which is still fresh in the memory of all who experienced its effects, showed less striking contrasts, and brought scarcely greater losses than 1893. The circumstances at the time were different. During the first six months of the year (1876), comparatively low prices of the raw material were prevailing until, in June, it suddenly turned out that the crop was much less favorable than had been expected, in consequence of which the prices commenced rising at once, until by August they had advanced fully 100 per cent, whereupon a reaction took place, and in September, a retrograde movement began, which by April, 1877, brought prices down to their starting point again.
>
> Quite the reverse took place in 1893. During the first six months, the business was extraordinarily good, and the prospects for the future correspondingly encouraging, so that the prices of raw silk, which had been rising steadily for twelve months, reached their highest point in May, 1893, at 90 to 93 francs ($17.37 to $17.95) per kilogram (220.46 pounds). Only one month later, however, matters assumed a quite different aspect. The crop, contrary to expectations, turned out to be an abundant one, and soon after the financial crisis in the United States made itself felt. The consequence was that, at the end of 1893, prices were again as low as at any time in 1892.
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> The spring trade in piece goods had, as already mentioned, been exceptionally good. Fashion favored silks in all the markets, and the consumption, stimulated by fine weather, exceeded all expectations. In consequence, in spite of greatly advanced prices, the spirit of enterprise was awakened, and large orders for the fall trade were given. For years the factories had not had such a supply of orders for the fall trade, which generally does not amount to much. The United States, in particular, made extensive engagements, seemingly afraid that, even in connection with their largely increased domestic production, they might not be able to obtain a sufficient stock in certain lines of silk goods.
>
> The American trade, which mainly had given the impulse to the further advance of the already high prices, in February and March, 1893, also caused the reaction, the decline of business, and the sinking of prices from June to September. As soon as the decline of prices of silk goods in the principal markets became known, and the consequences of the fall in the value of silver, and of the financial crisis in the United States were being felt, all spirit of enterprise was gone. No one seemed to have confidence in the future, and no one was willing to give orders of any consequence without having obtained, or secured himself against, a

further reduction of prices. Everyone tried to disengage himself from his obligations as best he could. A large portion of goods manufactured for the American market was, directly or indirectly, thrown on the European markets, and the stocks of "ready ware" became so overfilled that, in October, a regular stampede took place, and sales at any price had to be made. It soon became evident that the markets, especially in England, were gorged with goods, everybody having bought beyond selling powers when prices were rising. On the other hand, consumption had dwindled, because the bad financial condition in general had weakened the purchasing power, and while the sale of "ready ware" entailed continuously heavier losses, still the manufacturers would not reduce the production—the only means of regenerating and improving the situation.

The Swiss factories suffer from overproduction since the tariff war with France; nevertheless, the power looms have increased, although there is no sufficient outlet found for the goods formerly going to France. As long as fashion favors the Zurich specialties, as it has done for two years, this condition may be bearable, but what will it become when fickle fashion deserts them?

The largest purchaser is England—the only market left us without tariff bars. Our export of silk and part-silk goods to that country, in the year past, amounted to $6,084,000, besides $63,700 of silk bolting cloth, an increase of $627,250 over the preceding year. Since 1891, the last year of free commercial intercourse with France, the export of silk goods from Switzerland to England has increased 50 per cent, but the profits are continually growing smaller, since all the producing countries throw their products on the English market.

The United States range second, the export to that country, silk bolting cloth excepted, amounting to $3,353,000 in 1893, against $2,667,000 in 1892, an increase of $686,000. Of the export of 1893, however, far the larger portion must be credited to the first half of the year, the falling off of the export, as previously mentioned, beginning with the financial crisis. The long delayed repeal of the Sherman silver bill and the protracted wrangle over the tariff bill have kept that country in continued suspense and prevented the revival of trade which had been expected. Never before has Europe in general, and our industry in particular, felt so intensely the dominating influence America exerts upon our financial and industrial affairs.

The export to France, which, before the tariff controversy had been the largest purchaser, has decreased from 28,396,000 francs ($5,481,428) in 1891 and 18,205,000 francs ($3,528,619) in 1892 to 8,331,000 francs ($1,607,833) in 1893. This is not solely due to the prohibitive tariff of France, but also to the enlarged plants and improved capacity of the Lyons factories for producing the specialties which formerly had formed the bulk of the export to France.

The export to Austria shows a slight increase—from 2,781,000 francs in 1892 to 3,080,000 francs in 1893—while the export to Germany has remained about stationary (7,444,000 francs in 1893 as against 7,546,000 francs in 1892).

The exportations to all other countries, amounting to about 12,000,000 francs, did not vary much from former years, Belgium and Italy excepted, which countries show quite a decrease. The trade with oriental countries, Asia, East India, and South America, has also been unfavorable.

According to the report of the Silk Industry Association (*Seidenindustrie-Gesellschaft*) of Zurich for the year 1893, 72 factories were engaged in the manufacture of silk fabrics (woven goods). This is a decrease of 22 since 1883.

The number of handlooms in operation is estimated at 20,902, a decrease of nearly 10,000 since 1881, but an increase of 414, however, over the previous year, owing probably to the prevailing preference for taffetas. The number of power looms in operation is 8,625, an increase of 5,500 since 1881, and of 1,500 within the last two years. While in 1885 only 185 Jacquard looms were in operation, in 1893 they numbered 1,209.

The following quantities of silk were worked up within twelve months:

Description.	1893.	1891.	1889.
Undyed:	*Pounds.*	*Pounds.*	*Pounds.*
Grèges and ouvrées	246,275	250,767	238,686
Cotton	227,254	268,370	313,737
Dyed:			
Organzine	1,107,492	881,953	927,137
Trame or filling	1,023,789	809,959	908,218
Cotton	571,303	670,939	665,899

The output of the looms in the respective years is given as follows:

Year.	Quantity.	Year.	Quantity.
	Yards.		*Yards.*
1881	31,579,180	1889	36,446,700
1883	36,681,380	1891	33,216,050
1885	30,143,290	1893	37,265,780

There are 10 dyeing and 8 finishing establishments auxiliary to the industry.

Altogether there are engaged in the silk manufacturing business 122 firms, employing 45,690 persons, which is about 6,000 less than the highest number (in 1883). No less than 25,000 of these are still working their looms at home, some of them all the year round, some only in winter. The wages and salaries paid are estimated at 22,000,000 francs ($4,246,000), which had only been approximately reached in 1883 with a much larger number of operatives.

The decline of the house industry, observable during the last decade, seems to have come to a stop, due, probably, as already stated, to the fashion which favors taffeta fabrics; at least, there was no further decrease in the number of handlooms during the last year, while the number of winders and that of the warping frames has increased, corresponding with the increased consumption of weaving material. There is noticeable a gradual transfer of handlooms, not only to other cantons, but even beyond the frontiers.

The firms working principally or exclusively with power looms are continually enlarging their means of production, adding to and extending their plants from year to year. The number of power looms in operation has increased about 20 per cent in the last two years. This rapid growth is partly accountable for the unsatisfactory condition of the silk-weaving industry. Particularly noticeable is the increase in the use of Jacquard looms, in which branch sharp competition compels the operators to be constantly on the watch for new styles and designs. As the result of technical improvements, Jacquard goods can be manufactured to-day at prices so low as to materially stimulate the consumption. Velvets, little in favor with the fashion, are manufactured on a very reduced scale.

The silk-twisting industry also suffers from the general depression of business, and does not show any encouraging features, the production amounting to 946,618 pounds in 1893, as against 1,040,120 pounds in 1891. Thirty-one firms (instead of 33 in 1891) were engaged in this branch of the business, employing 7,065 persons, of whom 4,993 worked in the factories and 2,072 at home (5,499 and 2,036, respectively, in 1891). The number of establishments and the amount of production, as well as the wages of the operatives, show a reduction.

In the dyeing-branch, we find an increase in dyed silks—especially black—and a corresponding increase in wages and salaries paid.

The finishing business shows a material decrease in the number of yards sized and calendered, but an increase in the wages paid, due mainly to the large expense incurred in the production of the "moiré" styles.

Taking it all in all, the season of 1893 has been anything but satisfactory to the silk manufacturers, and no one, at the present time, is able to predict what the future may have in store for them. Everyone engaged in the silk business, however, is anxiously awaiting the revival of trade and prosperity in the United States, expecting therefrom a favorable reaction upon the silk industry of Switzerland.

WM. F. KEMMLER,
Consul.

HORGEN, *August 13, 1894.*

WOOD-PULP FLOOR MOSAICS.

In the latest reports of the local Industrial Union, mention is made of a process, claimed to be entirely new, for manufacturing floor mosaics from wood-pulp, an innovation which is expected, by interested business people, to produce important results. It is claimed that this process is distinguished from the known processes of manufacturing sectional or mosaic floors, by reason of the fact that the sections made according to it are not liable to any change of temperature, and are, nevertheless, not like stone, but similar to wood in all essential qualities. The process is as follows:

Small particles of wood, such as sawdust, wood flour, fine shavings, etc., are soaked in a mixture of shellac and alcohol, so that the pores of the wood are penetrated and thoroughly dried. A cement, consisting of fresh cheese whey (curd) and slacked lime, is then prepared. This cement is thinned with water and then mixed thoroughly with the already dry wood particles in such a way that the consistency of the mass is uniform. Particular care is taken to render the cement as thin as possible, so that it will distribute itself easily and uniformly, and inclose each particle of wood as perfectly as the shellac solution. The mixture thus produced is allowed to dry until it is only moist—not thoroughly dry, as before, for, in the latter case, the curd would lose its cohesive power. This moist pulp is then put into heated mosaic molds, of the desired shape and size, and, in these forms, placed under the press. As a result of the heat, the shellac softens, regaining its adhesive powers, and the curd cement hardens rapidly, so that both of the substances, the shellac as well as the cement, unite under the pressure so perfectly with the wood particles, that the wood mass resulting may, within a few minutes, be taken out of the molds without losing the form received. After the cooling process and complete hardening, these mosaics, it is claimed, are far less susceptible to any change of temperature or moisture than any natural wood. It is absolutely necessary that the use of every other ingredient, especially if of an oily or fatty character, should be avoided in this process, as otherwise the close union of the shellac with the curd cement would be retarded or even prevented.

Wood pulp for the manufacture of vari-colored mosaics is prepared in the following manner:

(1) The particles of different varieties of wood are put through the process separately, so that the natural color of the wood itself is brought into prominence.

(2) Dyes, dissolved in alcohol, are mixed with the shellac solution before the wood particles are coated.

(3) The wood particles are first colored with dyes, dissolved in water, and allowed to dry well before the coating with the shellac solution.

For simple floors, it suffices to manufacture mosaics of different colors, changing them at pleasure so as to form a variety of patterns.

The manufacture of pattern or fancy wood mosaics is proceeded with as follows: Pattern molds, of the required design (divided into fields and figures), are fitted into the plain mold; each section of the design is filled with the wood pulp, dyed as before described, and the pattern mold removed, after which the whole, thus freely outlined, is subjected to heat and pressure, as before mentioned, the result being perfect vari-colored fancy mosaic.

This wood mosaic, in spite of its hardness and resisting qualities, still retains all the essential properties of wood, being thus particularly well adapted for use as floor covers in living rooms and similar purposes. The inventor of this process (patented in Germany) is W. Gutwasser, of Königsberg, Prussia.

LOUIS STERN,
Commercial Agent.

BAMBERG, *April 21, 1894.*

BICYCLES IN THE GERMAN ARMY.

A military correspondent of the Hamburgischer Korrespondent writes as follows on the result of the trials which were made by the Government during the last maneuvers of the German army with cyclists, of whom a certain number was attached to each division:

> We hear, on trustworthy authority, that the results of the trials which the various army corps have made with the cyclists by no means come up to the expectations which were formed. The cyclists have been tested in every possible way, and although it is not forgotten that the cycle is capable of further development, and the cyclist of still better training, still this will have little influence on the general result. For military purposes, too, a distinction must always be made between the achievements of professional and amateur cracks and the work that can be done by the average soldier.
>
> One army corps united its cyclists in one body and threw them against the hostile division of cavalry on ground unsuited to cavalry. The cavalry was suddenly received with hot fire and forced to delay considerably, while the opposing general received his report in very good time. This was a case which might turn out useful, and it is therefore easy to understand that opinions are divided on this point. Another army corps used its cyclists to transmit orders and reports on military and other good roads, both during marches and bivouacs and outpost duty. In this case, the results were in general favorable. The cyclists also did good service as mounted postmen and for the rapid transmission of information to columns. This had been expected of them, and was fully within the scope of the regulations for field exercises.
>
> On the other hand, where the cyclists had to move on bad and soft roads their usefulness was greatly reduced, and in some districts of West Prussia they were of no use at all. The

character of the country, the weather, and the condition of the roads have, therefore, as was expected, considerable influence on the utility of this arm. But an arm which can only be effectively employed under special conditions can never rise to be of general importance. This was everywhere strikingly apparent when the attempt was made to substitute cyclists for mounted orderlies. This was tried, for example, by the first and seventeenth army corps, but the attempt was soon given up, as the cyclists either could not reach their destination at all, or only on foot instead of on their machines, so that when they arrived their messages had already been superseded and annulled by later events. It was clear from this that cyclists may, under certain conditions, relieve the cavalry of some parts of orderly duty, but can never be a substitute for mounted orderlies. These latter are still the only reliable means of communication between bodies of troops and staffs that have left the high roads—that is to say, during the reconnoissances of cavalry, when deploying in fighting order, or for the maintenance of unity of action during battle. Although the orderlies employed for this service were select men, mounted on select horses, they sometimes gave evidence of the defects of their previous training, and showed how necessary it is to create a special organization in time of peace for the purpose of training mounted orderlies.

The value of an invention can be tested only by numerous experiments. But these experiments could not be made until a number of trained cyclists were at hand, whose work might be practically compared with that of mounted orderlies. The cyclists have been unable to stand the test in the main department of mounted orderly work. It may be added that the same conclusion has been arrived at in Austria and France.

THEO. M. STEPHAN,
Consul.

ANNABERG, *October 18, 1894.*

BUSINESS AND MONETARY CONDITION OF PUERTO RICO.

I have the honor to report that, upon my return here, I find the business of the island in an unsettled and unsatisfactory condition. This is due partly to the abrogation of the reciprocal relations between the United States and Spain, but to a far greater extent is it due to the demoralized monetary condition of the island, and the uncertainty as to what Spain will do with the Mexican silver now current here.

I pointed out some time ago that the token value in the Mexican silver dollar existing in Puerto Rico would sooner or later be eliminated. This, to some extent, has taken place. During the last summer, large amounts of Mexican money have been clandestinely introduced into the island, which have swollen the volume in circulation and affected its value. The new importations show a larger amount of new bright dollars with old dates prior to 1885 than ever before; they also vary in details, which is quite conclusive proof that some one, somewhere, is manufacturing this coin for Puerto Rico.

Exchange is very sensitive and fluctuates widely and violently on the slightest rumor. The price obtained for good bills on New York for remittances, drawn by bankers and merchants here, has been as high as 65 per cent, and at present is about 60 per cent. At these prices, the value of a Mexican dollar here, in United States currency, is 60.9 and 62.5 cents, respectively. The mercantile world here is so small that it is difficult to quote a regular market price, and it is rather a personal one, influenced by the caprices of the individual; consequently, in the uncertainty now prevailing it is possible to find merchants 10 per cent apart in their transactions. The result is apparent. No one cares to place orders for merchandise or make contracts involving any period or time, and business is at a standstill.

What Spain will do in the premises is a matter of mere conjecture at the present time, but the agitation of the question has produced uncertainty and stopped importations to a great extent. The majority of the planters and merchants would prefer Mexican silver with all restrictions on importation removed, arguing that they would then have a 50-cent dollar governed by the markets of the world—bad enough in itself, but at least preferable to an unknown and worse currency, undoubtedly remembering the disastrous effect of a paper issue inflicted upon Cuba some years ago.

JOHN D. HALL,
Consul.

SAN JUAN, *October 22, 1894.*

THE MONGOOSE IN JAMAICA.

Some of the American newspapers stated recently that Mr. Vanderbilt had imported the mongoose for his estate near Ashville, N. C., and were discussing the advisability of Government intervention in the matter of its introduction into the United States. I have been requested by some interested parties in the United States to give the results attendant upon the introduction of the animal into this island.

As the experiment has proven very disastrous, and as I have recently received a communication from a person in the United States applying for information as to where he could obtain the mongoose for importation, I have deemed it advisable to prepare this report.

The mongoose is an Indian animal, not unlike the ferret. It was introduced into Jamaica about twenty years ago by a sugar-planter. The object of the importation was to destroy rats, which did great damage to the sugar cane and greatly reduced the production of the estates. A few years later, it was introduced in great numbers, and increased so rapidly as to exterminate many of the rats on the estates to which they were introduced, and the increase in the sugar produced was encouragingly great.

But eventually, the increase of the mongoose spread all over the island, with the result that nearly all the ground birds have been wiped out, as well as the snakes and toads, and all insect-destroying birds which minimized the insect pest. Even the black crabs (which were such a table delicacy) have followed in the wake. As a result, ticks have multiplied, with the grass lice, beetles, flies, and destructive insects of all sorts. The reign of some of these has almost become a pestilence at some seasons. The ticks have spread themselves all over the island, and the result is that many horses, attacked by them, succumb, if not attended to, the ticks getting into their ears, their nostrils, and even their throats. The Government has been looking about for a means of exterminating the mongoose, and has offered prizes for methods of destroying the ticks with which the pastures, and even the common pathways, it is said, are overcrowded.

In the course of time, the rats have adapted themselves to the circumstances, and have changed their habits, and instead of building their nests in the ground, they now build in the banana and cocoanut trees so as to be out of reach of the mongoose, and the mongoose has so far changed his habits as to climb trees in search of rats.

The mongoose, finding food scarce in the shape of rats, has now commenced to attack the fowl yards, and although by nature not a prowler by night, even this habit has become changed; he even attacks the setting fowls and carries off the eggs. It has become very difficult to raise fowls in the island, in consequence of the temerity of the mongoose.

I quote below some extracts from the report of the commission appointed by the present governor of Jamaica to inquire into the question whether it was expedient to reduce the numbers of this animal, and, if so, to recommend what measures should be adopted:

> Your commissioners are satisfied that the mongoose has been extremely useful and valuable, and has conferred great benefits on the sugar and coffee estates in destroying rats, the purpose for which he was originally introduced; but all the other evidence, we think, goes to show that this benefit to a particular class has been more than counterbalanced by serious injury to the island generally, the chief sufferers being the small proprietors and the peasantry. We find from the evidence that the mongoose destroys young pigs, kids, lambs, newly-dropped calves, puppies, kittens, also the young of the coney, poultry of all kinds, game (such as partridges, quail, guinea-fowl, snipe, lapwing, ground doves, young John Crows, and all birds which nest on or near the ground, and their eggs), as well as snakes, ground lizards, frogs, turtle and turtle eggs, land crabs, and other useful creatures. We have evidence to show that the mongoose eats ripe bananas, pines, young corn, avocado pears, sweet potatoes, cocoas, yams, pease, and certain fruits, and that he is suspected of sucking the sugar cane; also, that he will eat meat and salt provisions, and can catch fish; in short, that he is, or has become, omnivorous.
>
> We believe that the mongoose has ceased in a measure to fulfill his original mission, and that, in many respects, his characteristics have become altered, in all probability from his extraordinary fecundity, and the consequent scarcity of his natural food.
>
> The fecundity of the animal is great; the number produced at a birth varies from five to twelve or thirteen, and there are three breeding seasons during the year.
>
> In view of the foregoing, it is not surprising that there exists among the people of this island an almost unanimous desire that the mongoose should be exterminated, and that it is regarded as great a pest as the English sparrow has proven in America, or the rabbit in Australia.

It would therefore be well to profit by Jamaica's experience and avoid the importation of this animal into the United States.

Q. O. ECKFORD,
Consul.

KINGSTON, *October 27, 1894.*

BEET-SUGAR PRODUCTION OF EUROPE.

The researches made last week by the International Statistical Sugar Alliance show a much smaller estimated surplus of the beet-sugar production, compared with last year, than was generally anticipated. The figures, taking Belgium, Germany, France, the Netherlands, Austria-Hungary, and Russia together, show an estimated total for 1894–'95 of 4,162,000 tons, against 3,687,000 tons produced last year, and would give an increase of 475,000 tons for this season, while, until recently, an increase of at least 750,000 to 1,000,000 tons was predicted.

The figures of the Statistical Alliance, however, are not accepted, in interested circles, as reliable. Attention is called to the fact that the only real base of calculation pursued by this alliance is the stand of the sugar-beets as it showed in the middle of October, and that they ignore a number of important items which, as a rule, tend to increase the estimate respecting the crop later on.

The German Sugar Industrial, one of the best posted industrial newspapers in that branch of trade, meets the Statistical Alliance's figures with somewhat of an increase, which, compared with the crop of 1893–'94, would give the following results:

Countries.	1894–'95.	1893–'94.
	Tons.	*Tons.*
Germany	1,730,000	1,383,000
Austria-Hungary	1,050,000	834,000
France	735,000	572,000
Russia	625,000	650,000
Belgium	270,000	226,000
Holland	85,000	72,000
Other countries	140,000	110,000
Total	4,635,000	3,847,000

In accordance with the above, the prospective surplus of this year's beet-sugar crop over last year's would be about 800,000 tons, in round numbers.

EUGENE GERMAIN,
Consul.

ZURICH, *November 3, 1894.*

ANOTHER ESTIMATE.

According to Licht's Circular, which is recognized as one of the highest commercial authorities in this country, the product of beet-root sugar in Germany, Austria-Hungary, France, Russia, Belgium, and Holland for the current "campaign," or season, of 1894–'95, will exceed the crops in each of those countries during the past three years, and the aggregate yield of

Europe entire this season will surpass by more than 1,000,000 tons the average product of the three preceding "campaigns." The following are the statistics, it being understood that those for 1891–'92, 1892–'93, and 1893–'94 are official and definite, while those for 1894–'95 are expert estimates, based upon the fullest and most authentic information obtainable at the close of the beet harvest for the present year:

Countries.	1894–'95.	1893–'94.	1892–'93.	1891–'92.
	Tons.	*Tons.*	*Tons.*	*Tons.*
Germany	1,725,000	1,393,374	1,225,331	1,198,156
Austria-Hungary	1,000,000	841,809	802,577	786,566
France	830,000	579,111	588,838	650,377
Russia	620,000	660,000	455,000	550,994
Holland	85,000	75,015	68,070	46,815
Belgium	275,000	235,000	196,699	180,377
Other countries	140,000	111,000	92,000	88,635
Total	4,675,000	3,895,309	3,428,515	3,501,920

The average of the three preceding years was 3,608,581 tons; estimated product for 1894–'95, 4,675,000 tons; excess of 1894–'95 above average, 1,066,419 tons.

FRANK H. MASON,
Consul-General.

FRANKFORT, *November 12, 1894.*

THE DIAMOND TRADE OF AMSTERDAM.

The increased tariff of the United States on cut and polished diamonds has produced a depressing effect on the Amsterdam market. For a few weeks previous to the enactment of the new law, the diamond business here was brisk; now, the industry languishes. The United States was Amsterdam's largest purchaser, and consumed about one-half of the local product. Under the new duty, the American patronage is withdrawn. The outlook for the local manufacturer, broker, and operative is worse than at any time during the past year of great financial depression.

Anticipating the advance of duty, some of the New York diamond importers opened cutting and polishing establishments in New York and Brooklyn. A few importers have become manufacturers. Since July 1, about one hundred operatives, cutters, and polishers have gone from this city and are now at work in the newly opened shops.

Whether the injurious results of the new law on the local market will be permanent, it is yet too early to determine. If the diamond cutting and polishing industry in the United States prove a success, all the large importers may open establishments of their own.

Whether the American diamond men remain importers or become manufacturers, one great obstacle with which they will have to contend is smuggling. The large duty of 25 per cent, the ease with which polished diamonds may be concealed, and the numberless and most ingenious methods by which concealment is secured, afford great temptations to the unscrupulous. Against the successful smuggler, neither the American manufacturer nor the American importer can compete.

EDWARD DOWNES,
Consul.

AMSTERDAM, *September 5, 1894.*

DIVIDENDS IN STETTIN.

The following is a condensation of a statement transmitted by Consul Kickbusch, showing the dividends declared during twenty years (1874–'93) by thirty-four companies in Stettin:

Companies and corporations.	Capital invested.	Dividends declared in—								
		1874.	1878.	1880.	1884.	1886.	1888.	1890.	1892.	1893.
		P.ct.	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*	*P.ct.*
Prussian National Insurance Co.	$535,500	19	18	15	25	24	24	22	9	5
Stettin Stockholders' Corporation	107,100	....	....	5	7½	8	8	8	3	....
Pomerania	80,325	15	15	1⅔	10⅔	10⅔	10⅓	5	6⅔	10
Union Sea and River Insurance Co.	107,100	22	18	6⅔	25	24	12	18	13⅓	18
North Sea and River Insurance Co.	71,400	10	18	1⅔	23⅓	23⅓	13⅓	15	18⅓	16⅔
Germania	348,400	12	13⅓	13⅓	15	15	15	15	15	15
Vulcan:										
Shipbuilders	1,332,800	16	6	7	15	....	6	8	9	7½
Old stock	571,200	16	6	7	15	5	6	8	9	7½
Müller & Kolberg:										
Shipbuilders	154,700	5	....	....	....	....	....	5	....	....
Preferred bonds	321,300	....	....	....	....	....	....	6	....	....
Obligation bonds	233,240	....	....	....	....	....	....	4½	4½	4½
Stettin Warehouse Co.	71,400	8	7¾	4½	4	4	4	4	4	4
Stettin Union Warehouse Co.	60,690	9	7⅜	6	5½	6	6	4½	4	4
New Stettin Sugar Refining Co.	107,100	4	3⅛	3⅛	3⅛	3⅛	3⅜	3⅛	2⅛	2⅝
Mescheriner Sugar Refining Co.	141,598	8	....	6	10	12	10	15	20	15
Bredower Sugar Refining Co.	273,600	2⅔	....	6	5	....	7	....	....	3
Pomerania Sugar Refining Co.	571,200	20	16⅔	5	13⅓	20	20	25	7½	10
Pomerania La B. Sugar Refining Co.	273,600	....	....	....	....	....	....	....	7½	10
New Stettin Steamboat Co.	714,000	5½	12	9	5	4	12	4	....	....
Stettin Rolling Flour Mills	268,944	30	5	3⅓	26⅓	26⅓	30	30	30	10
Steam Rolling Flour Mills	428,400	20	....	8	13⅓	8	13⅓	6⅔	....	....
Stettin Portland Cement Co.	249,900	40	30	14	20	15	27	27	20	20
Stettin Bredower Cement Co.	273,600	....	....	11	6	6⅓	15	5	2	....
Mercur Cement Co.	238,000	....	....	....	....	....	....	4	....	....
Chemical Product Co.	357,000	35	16	20	22	10	10	10	10	10
Old Daum Paper Co.	85,680	....	....	10	16⅓	10	15	10	11	20
Union Chemical Product Co.	999,600	2	3	5	4	4½	9	12	10	10
Stettin Chamotte Co.	952,000	15	10	20	20	20	30	30	15	15
Stettin Brewing Co.	214,200	7	7½	8	10	11	14	14	12	12
Elysium Brewing Co.	107,100	....	....	....	2	5	6	1	4	5
Hohenking Paper Co.	184,700	....	....	....	5	7	3	2	....	2
Stettin Soap Co.	107,100	....	....	5	5	12	20	6	2	6
Stettin Street Car Line	285,600	....	....	6	2	2	2	2½	2½	2½
National Mortgage and Loan Co.	239,190	12½	10	7	7⅜	4	7⅜	4	4½	4

GREEK VS. AMERICAN CURRANTS.

During the last few years, the currant crop of Greece has been so large that prices have ruled exceedingly low; in fact, far below the cost of production.

Greek currants sold, if my memory serves me right, in 1892 and 1893 at 1¼ cents per pound in the New York market, thus coming in direct competition with the cheaper grades of California raisins, and reducing the price of the American vineyard product considerably; in fact, making it a drug on the market and preventing paying returns.

The report of the Swiss consul at Patras has just come to my notice, and, thinking it might prove interesting to our raisin-growers, I give a partial translation of said report, which is dated May 1, 1894:

> The severe commercial and financial depression prevailing in Greece, beginning in 1893, shows as yet no marked improvement. The currant crop returns for the year 1893 were most discouraging, and have proved specially disastrous to the districts of Achia, Elis, and the whole west coast of the Peloponnesus, where the currant vineyards are the only resources of the country.
>
> Other districts, as Messenia, Ionian Islands, and especially Zante, were somewhat more fortunate, having in addition to currants, good crops of figs and olive oil, while northern and eastern Greece fared much better and were not affected by this general depression.
>
> To remedy the evil of overproduction, attempts were made by the Government to impose a tax on green currants intended for drying, leaving those going to the distillers free of tax, thus encouraging distillers to increase their capacities, use up larger quantities, reducing the quantity which otherwise had to be dried, and thereby enhance values of the reduced output of the dried product. But this project met with so much opposition that it failed to carry. If, however, crops are again largely in excess of the demand, which is very likely to occur, legislation will again be agitated, an extra session of the Chamber called, and, no doubt, relief measures enacted.
>
> Where such a state of affairs exists, one would naturally think that people would neglect their vineyards. It had just the contrary effect. People have redoubled their energy, have taken better care of their vineyards than ever, and have even increased the acreage by setting out new vineyards. Women and children who had never worked in a field, went at it with a will, helping the men, spade in hand, to bring new lands under cultivation and increase the production of currants, so that to-day the currant vines cover an area of 600,000 stremata, or 148,260 acres.
>
> It is a well-established fact that growers did not lay up a nest egg during the former years of prosperity, but thinking that prices would keep up, invested all their surplus earnings in new lands and the planting of more vines, etc., and thus were unprepared to meet hard times. The returns received last year did not pay expenses, much less the interest on the invested capital. People are hopeful, however, and expect relief from Government legislation this fall.
>
> The crop of 1893 was enormous, exceeding that of 1892 by about 50,000 tons. The estimated output for 1893 was 175,000 tons, of which 135,000 tons have been exported up to date. Thus the supply exceeds the demand by 40,000 tons, which remain still unsold. Adding to this the incoming crop, estimated at 175,000 to 180,000 tons, gives a net supply of about 220,000 tons to be marketed this fall, with a large surplus stock reported still being carried in the different markets of the world.

The total average consumption of the last three years is reported as being 140,000 tons per annum; this would leave, if no new outlet be found, a surplus of 72,000 to 80,000 tons to be carried over, and it would have to be sold at ruinous prices to stimulate and increase the demand. The prospects for increased foreign markets and higher prices are poor, raisins being cheap and becoming a serious competitor.

The restrictions placed on the importation of currants into France, which formerly bought heavily, and the prospective imposition of a duty on this product by the United States, tend to depreciate values.

Early in 1893, prices opened at 11.50 francs per 50 kilograms of 110 pounds for second grade, up to 25.50 francs for first grade, free on board at shipping points, but declined gradually until they reached a point less than the cost of production. To-day, prices are 5.50 francs per 50 kilograms of 110 pounds for second grade, and 11.25 francs for first grade, free on board.

As a matter of course, such low figures were bound to bring currants prominently before consumers, and to increase the sales. Russia, which formerly imported but few currants, increased its purchases from 300 tons to the extraordinary figure of 6,500 tons from January 1, 1893, to May 1, 1894. It is impossible to tell whether Russia will continue at this ratio; if so, it will in some measure compensate Greece for the loss of the French market.

In Greece proper, the consumption of currants has materially increased. The taxes on alcohol having been abolished, distilleries have greatly increased, and much of the second grade of currants, which formerly could not be sold to any advantage, are now being distilled. A careful estimate leads to the belief that the distilleries will take 15,000 tons this season, or about 9 per cent of the entire crop. This is encouraging, as it is well known that currants can be distilled at a profit even when prices are higher than those ruling at present.

During 1893, the shipments to the different countries were as follows, in tons of 2,240 pounds:

Whither exported.	Quantity.	Whither exported.	Quantity.
	Tons.		*Tons.*
England and dependencies	62,383	France	3,815
Germany	8,017	Russia	3,021
Belgium and the Netherlands	16,002	Australia	723
Austria (Trieste)	4,530	Other countries	262
United States	15,014	Total	114,848
Canada	1,081		

To give American raisin-growers an exact idea of the currant output for 1893, I will say that the total crop was 180,000 long tons (403,200,000 American pounds), or 20,160 carloads of 10 short tons each.

EUGENE GERMAIN,
Consul.

ZURICH, *June 30, 1894.*

PRODUCTION AND CONSUMPTION OF BRANDY IN GERMANY.

Recently published statistics of the German Government as to the production of brandy in the Empire during the year 1892–'93 show that 60,025 distilleries were in operation, against 59,789 in 1891–'92, of which 22,029 were in Alsace-Lorraine, 19,577 in Baden, 6,508 in Würtemberg, and 4,667 in Bavaria, while there were only 6,108 in Prussia. The greater number of the distilleries (47,385) are of small size, working up fruit, waste from breweries, refuse from pressed grapes, etc. The largest establishments are in Prussia, where the most important distilleries turned out in 1892–'93 over 4,000,000 liters (1,026,700 gallons) of pure alcohol. In all Germany, the quantity of pure alcohol made in 1892–'93 was 3,028,920 hectoliters (80,266,380 gallons), against 2,948,244 hectoliters (78,128,466 gallons) in 1891–'92, of which Prussia produced 2,449,626 hectoliters (64,915,089 gallons) in 1892–'93, and 2,340,702 hectoliters (62,228,603 gallons) in 1891–'92.

During the statistical year 1892–'93, the quantity of material used in the manufacture of brandy was as follows: Of potatoes, 2,105,890 tons; grain, 338,370 tons; molasses, 37,453 tons;* stone fruit, 252,900 hectoliters (718,236 bushels); husks of wine, 231,467 hectoliters (657,366 bushels); kernel fruit, 64,006 hectoliters (181,777 bushels); brewers' waste, 195,338 hectoliters (554,559 bushels); wine lees, 30,252 hectoliters liquid measure (801,678 gallons); yeast, 29,517 hectoliters (780,200 gallons); grape wine, 15,743 hectoliters (417,189 gallons).

Of drinkable brandy or spirits, it is reckoned from the customs and fiscal returns that there were 2,254,919 hectoliters (59,755,353 gallons) consumed in 1892–'93, against 2,192,486 hectoliters (58,100,879 gallons) in the year 1891–'92, or 4.7 and 4.6 quarts, respectively, per head of population. For industrial purposes, 606,670 hectoliters (16,076,755 gallons) of pure alcohol were used in 1892–'93, against 551,300 hectoliters (14,609,450 gallons) in 1891–'92, of which 315,254 hectoliters (8,354,231 gallons) were made unfit, by denaturalization, for human consumption, and 145,026 hectoliters (3,843,189 gallons) applied to the manufacture of vinegar.

The quantity of brandy or pure spirits imported into Germany in 1892–'93 was 40,147 hectoliters (1,063,895 gallons), against 30,287 hectoliters (802,605 gallons) in 1891–'92. The exportation was 111,447 hectoliters (2,953,345 gallons) in 1892–'93, against 126,989 hectoliters (3,365,208 gallons) in 1891–'92.

The receipts of the Government from tax on brandy and spirits during the fiscal year 1892–'93 amounted to about $35,000,000, against $33,000,000 in 1891–'92.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *June 14, 1894.*

CATALONIAN CORK.

One of the principal articles of export from this consular district is cork, and more of it is purchased by the United States than by any other country. The exports of cork to the United States in 1891, 1892, and 1893 amounted to $273,395, $189,139, and $171,012 respectively. The next heaviest purchasers are the Argentine Republic, England, Italy, France, and the Spanish colonies. So fully do the various grades of this cork meet with the requirements of the local trade, that less than $2,000 worth of cork is imported from other countries.

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* Tons of 2,200 pounds.

The forests are almost all situated in the mountains of the province of Gerona, which is contiguous to France, and which is one of the four provinces comprising the principality of Catalonia. Some of the forests are small, but others cover many acres of land. Most of them are natural, and these are the hardiest and most productive. The planted forests never yield satisfactory results.

In the natural forests, there exist trees of 300 and even of 400 years of age. When the tree is 25 to 30 years old, the bark can be taken off, and thereafter every twelve or fourteen years, according to the vigor of the tree. The average yield is about 45 pounds, and the time selected is generally the month of July.

The manufacturing is done almost exclusively in the neighboring towns. The bark is divided into three qualities, according to its condition. The only instrument used in stripping a tree is the axe. Cars are used in transporting it to the towns, and mules and oxen are also employed for that purpose. The wages of cork men are about 85 cents per day, which is rather more than the average workman receives in this part of Spain. In order to protect the forests, and, incidentally, to increase the nation's revenues, an export duty of 85 cents per 100 kilograms is levied on all grades of cork.

The other provinces of Spain in which there are cork forests are Estremadura, Andalusia, and Valencia, but there are no exportations of the article from Valencia, nor are there any great quantities exported from the other two provinces named, so I am informed.

The greater part of the bark obtained in this district is made into corks for bottles, but it is used also for many other purposes—for instance, the rougher kinds of bark make fine decorations for gardens, bridges, gateways, and rustic seats, and it is also commonly used as floaters for the lines and nets of fishermen. In its manufactured state, it is employed as handles for bicycles, being light and never cold to the touch. Smokers' mouthpieces are also made of it, and penholders, small lamps, shoe soles, and even visiting cards. Floors constructed of pieces cut 5 centimeters thick defy hard usage, and so add much to the comfort of home life. What odd bits and ends are left over after the cork has passed through the hands of the more skilled workmen are thriftily collected, ground into powder, and ultimately converted into bricks for building purposes, if it is not good enough to be used for packing fruit.

HERBERT W. BOWEN,
Consul.

BARCELONA, *September 30, 1894.*

KEROSENE OIL IN CEYLON.

Adverting to my last report on Ceylon tea, dated June 7, 1894,* and the casual allusion therein to the complete cessation of American kerosene importations here, I now feel prompted, by late local developments, to make a special report on that subject, more especially as the kerosene product was, up to the year 1892, the only article of considerable importance imported here from the United States as an offset to upwards of $2,000,000 worth of Ceylon products exported yearly to the United States.

My first report on kerosene oil was dated May 11, 1881, when the import here amounted to 56,000 gallons per annum. The quantity increased yearly until in 1887, when it amounted to 54,000 cases, or 432,000 gallons, all coming from the United States, either direct or via Bombay. In the meantime (in 1884), the local legislature imposed an import duty on kerosene of 6½ per cent ad valorem, against my protests, and in an unlooked-for manner on the part of the governor, who had assured me, both verbally and in writing, that my opinions and representations on the subject would be laid before the executive and legislative councils for consideration—a promise that was never carried out.

The imposition of this duty was also opposed by the local mercantile community, the Chamber of Commerce denying its necessity for revenue purposes, and expressing a wish that the Government would desist from the project.

In 1888, the trade in Russian oil began, and in 1893, the import from Russia was 160,436 gallons, and none from the United States. In the meantime (in 1892), the duty was raised to 25 cents of a rupee (7 cents United States money) per gallon, equivalent to 50 per cent ad valorem.

All of the above facts having been reported to the Department as they occurred, I now reproduce them herein as a résumé and a preface to what follows, as an installation for storing kerosene in bulk, with a present capacity of 400,000 gallons, is now in process of construction in Colombo, which, when ready for use, will probably render impracticable the importation of case oil here.

That the installation scheme will prove a great success there is no doubt, for it has much Government patronage, as the following newspaper report of late legislative council proceedings clearly shows. In fact, the Government, when questioned on the subject of using a dredger, intended legitimately to deepen the usual anchorage space of the harbor, openly declared that the dredger was used in the interests of the private company now constructing the kerosene installation, to so deepen the water in the vicinity of their premises that the approach of steamships thereto would be facilitated.

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*See CONSULAR REPORTS No. 169 (October, 1894), p. 158.

THE DREDGER AND THE NEW PETROLEUM ARRANGEMENTS.

In accordance with notice, Mr. W. W. Mitchell asked if it is the case that the dredger *Triton* was moored close to shore off Kochchikade for more than a week previous to the 3d of July, although quite unable to work on account of the sea running into the harbor, and if she was then applied to a purpose for which she was never intended, to the neglect of her legitimate work, in increasing the depth of the anchorage space now available for vessels.

The colonial secretary, in reply, said that one of the dredgers was moored for fifty-four working days in March and April off Kochchikade. It was placed there in pursuance of an undertaking on which the Government entered with a view to affording facilities for the introduction of petroleum oil in bulk and allowing tank steamers to come nearer the shore. It was successfully worked, and removed about 35,000 feet of dredging. On May 5, however, on account of the setting in of the monsoon, the dredger was removed from the station. He might say that neither the Government nor any one individual foresaw that there would be any difficulty or risk in working the dredger at this point. On June 26 or 27, the master attendant and the harbor engineer personally and practically tested whether the vessel could be worked safely there, but they found too much motion in the sea, and the vessel was at once removed, and has since been engaged in her normal work. With regard to the latter part of the question, all the dredger had up to the present done in removing 35,000 cubic feet of dredging was a part of the originally contemplated area of dredging. The Government considered that the desire to encourage this new phase of importing petroleum in bulk justified the division of the dredger from the stricter and narrower purposes for which she was certainly intended.

I think I am justified in directing attention to the fact that, in 1884, no consideration was shown by the Government of that period to the United States when a duty of 6½ per cent was put upon the only American product of much consequence sent here, to the value of perhaps $50,000 per annum, the same duty being increased in 1892 to 50 per cent ad valorem, though at the same time we were admitting free of duty into the United States nearly every Ceylon product, the value of which in some years amounted to over $2,000,000, whereas, this year (1894), the Government is unusually obliging toward kerosene oil interests that are purely Russian.

W. MOREY,
Consul.

CEYLON, *September 4, 1894.*

GOLD-DIGGING IN BRITISH GUIANA.

I have the honor to inclose herewith a report made on the 20th of April last, and just printed, by Mr. E. P. Wood, commissioner of mines, upon gold-digging in British Guiana, which may be of interest at the present time.

Climate.—The climate is something like northern Queensland, too hot to do hard manual work, but not too hot to prospect and to superintend the work afterwards. The heat in the shade is seldom more than 90°, though it is a very exhausting heat, and equal, in my opinion, to 120° in some other countries. There are supposed to be two wet seasons in the year, about Christmas and midsummer, for two months each. The rainfall may be taken at about 110 inches a year.

Mode of working and labor.—Where the gold is being found in British Guiana is up the different rivers, at a distance of from 100 to 300 miles from Georgetown. The richest district is the Potaro river, a branch of the Essequebo. Then there is the northwest district, the Cuyuni, Mazaruni, and Demerara rivers, in all of which gold is being obtained. The return from these districts during the last twelve months for placer washing, was:

	Ozs.	Dwts.	Grs.
Essequebo	72,287	7	10
Northwest district	31,837	17	11
Cuyuni	24,978	0	1
Mazaruni	9,418	17	2
Demerara	5	14	14
Total	138,527	16	14

It is all forest land, very dense, and, as no roads have been formed, the way of getting to the different places is by boat, the rivers all being navigable for a great distance inland. People intending gold-digging either buy or hire (the former generally) a boat sufficiently large to carry, say, twelve or fourteen men and three months' provisions. They then engage and register a certain number of laborers. There are steamers leaving once a week for the northwest district, and every day for Bartica, a settlement at the junction of the three rivers, Cuyuni, Mazaruni, and Essequebo. There you have to take to your boat and paddle to your destination.

Requirements.—All food, tools, etc., can be obtained in Georgetown at reasonable rates. Boats can be made at a cost of about £25 ($121.65). A laborer's wage is 2*s.* 8*d.* (65 cents) per diem and his food, the cost of which is about 10*d.* a day (20 cents).

Royalty and licenses.—The royalty on all gold obtained in the colony is 3*s.* 9*d.* (91 cents) per ounce, which has to be paid in to the colonial treasury in Georgetown before the gold can be sold.

A prospecting license costs 2*s.* 1*d.* (50 cents) per month; for every grant of a mining claim 8*s.* 4*d.* ($2.03) a month, and for every grant of a placer claim 4*s.* 2*d.* ($1.00) a month.

Alluvial working.—The size of each claim is 1,500 by 500 feet, and as a rule the depth of stripping is about 4 feet and the wash about 2 feet. It is all heavily timbered. Water is fairly plentiful, but has very little fall, and in a good many claims, Californian pumps or Spear pumps might be used advantageously, instead of bailing with buckets, as at present.

Reef claims are not being worked at present, only one company erecting machinery. The quartz is very rich, many surface samples assaying 50 ounces to the ton, and though these may have been fancy pieces, yet, even where there is no visible gold, they often give 8 to 10 ounces. So little work has been done on the reefs that it is quite out of the question to give much of an account of them. They are of all sorts and sizes, quartz very friable, and, as far as I have seen, not cased quite as one would wish, but still there has been so little done as yet that one can not form a very correct judgment on their permanency. Everything would point to there being an exceedingly rich reefing district, and the chief thing needed is a class of men that understand mining. The laborers will have to be educated up to underground work, but there is no reason why they should not make good miners eventually. Timber for mining purposes grows in plenty on every claim, and each claim-holder is entitled to cut what he requires free. If more is required, a wood-cutting grant can be obtained at a small rental. At present, there are very few white men working; nearly all the parties are composed of blacks, financed by storekeepers and others in town. This mode of working must very shortly collapse, as the gold in many cases does not find its way to the real owners, and it is only a spirit of gambling that keeps the thing up. No doubt, eventually, the laborers will form themselves into parties and work for themselves, but they are such an improvident lot that they scarcely ever save money enough to fit themselves out with even clothing before they leave for the mines. Another thing, they will not trust each other, but this might be got over by dividing the gold each night.

Answers to correspondents.—The amount of gold produced last year was 138,527 ounces, and the year before 134,124 ounces.

The laborers are African blacks, the descendants of the slaves of former years.

The only geological survey is a book called "Reports on the Geology of British Guiana," by Charles B. Brown, F. G. S., and J. G. Sawkins, printed and sold by Longmans, Green & Co., London.

The best time of the year to arrive in British Guiana is about October, but with the exception of July, August, and September, there is very little difference in the climate all the year round.

Flooded rivers do not stop the boats going up; except on very rare occasions.

Diamonds.—Several diamonds have been found by chance in panning off the gold at the end of a day's work, and, if found like this, any old diamond miner would say they must be in pretty large quantities. I have no doubt that, if a small pulsating machine were tried, diamond-mining would pay.

In sluicing, there is but little chance of a diamond stopping in the box, and still less chance of its being discovered in panning off. Many of the laborers employed have never in their lives seen a diamond in its natural state, and are only attracted by the peculiarity of its shape.

Statement showing amount of gold obtained in the colony.

Years.	Quantity.			Years.	Quantity.		
	Ozs.	*Dwts.*	*Grs.*		*Ozs.*	*Dwts.*	*Grs.*
1884	250	0	0	1889-'90	32,332	16	5
1885	939	0	0	1890-'91	66,864	4	21
1886	6,518	1	12	1891-'92	110,555	12	5
1887	10,986	14	0	1892-'93	134,124	7	23
1888-'89	20,216	1	8	1893-'94	137,527	16	14

JAMES SPAIGHT,
Vice-Consul.

DEMERARA, *July 5, 1894.*

MANUFACTURE OF ORIENTAL CARPETS IN BELGIUM.

Many of the artistic industries of Belgium which were abandoned during the stormy period in the history of the country, have, within the past few years, been revived. Among the most notable are painting on glass, artistic iron and brass work, bookbinding, and tapestry and carpet weaving.

Since my report, dated October 31, 1889, on "Carpet Manufacture in Belgium,"* there has been a revival of the manufacture of Flanders carpets, due to the energy and philanthropy of Mr. S. Guillon, proprietor of the most extensive dry goods establishment in Belgium (Magasin de la Bourse, at Brussels). In 1891, his first attempt to revive the industry was made by employing the labor of the male inmates of the almshouse at Merxplas, in the province of Antwerp. This venture not only realized his most sanguine anticipations, but attracted the attention and enlisted the sympathy of Countess Jeannede Merode. Mr. Guillon shortly afterwards established at Westerloo, Belgium, a branch factory under the patronage of the countess.

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* Printed in Special Consular Reports "Carpet Manufactures in Foreign Countries."

Exquisite imitations of Smyrna, Turkish, and Persian rugs, as well as carpets of Louis XV and Louis XVI styles, are manufactured by the inmates of the almshouse at Merxplas, as well as at the establishment at Westerloo, and find ready sale, not only on the home market, but in France, England, and Holland.

There are about one hundred looms in active operation in the two establishments. The looms are worked by hand, and vary from 1 to 12 meters in width. The length of rugs is determined by the required number of meters. The annual output amounts to about 15,000 square meters, or 1,500 large and 3,000 small rugs.

There are about eighty men, inmates of the almshouse, employed at Merxplas in this industry, for which they receive no compensation. About one hundred girls under twenty years of age are employed at Westerloo, and earn, according to abillity, a daily wage of from 20 to 25 cents. They are peasant girls residing in or about Westerloo, and live in a very simple manner. Their food consists of coffee and bread, soup made without meat, vegetables, and, on rare occasions, a bit of meat.

The rugs are made of pure wool and jute, the warp being of wool and the woof of jute. The wool is delivered at the establishments spun, but in its natural color. The dyeing is performed at the factory, and the colors employed are of all possible hues.

Prices vary from $2.40 to $4.80, wholesale, per square meter. The product is sold directly to retail and wholesale houses in Belgium, and, through commission agents, in France, England, and Holland.

One of the most interesting and instructive exhibits at the Antwerp Exhibition is the miniature carpet manufactory in the quaint mediæval house of the Countess de Merode, in old Antwerp. Five peasant girls from the Campine are seen busily at work in the presence of the public. The girls are seated before the looms, upon which are stretched countless numbers of jute strings forming the woof. The rugs upon which they are engaged are identical in every respect to those of Smyrna and Persia. The raw materials consist of jute and innumerable pieces of gaily colored wool measuring from 1¾ to 2 inches in length. The girls knot the pieces of wool to the woof with surprising rapidity and dexterity, and by the aid of a heavy metal comb press the threads of wool together until they form a soft thick pile. The combinations of colors and styles are of infinite variety and beauty. This interesting enterprise not only restores one of the oldest industries of Belgium, but supplies employment to many young persons between the ages of 14 and 20 years.

Since 1891, other factories for the manufacture of imitation Smyrna carpets have commenced on a small scale at Ingelmunster, West Flanders, and at Hamme, East Flanders.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *November 3, 1894.*

VINTAGE ON THE RHINE.

The vintage on the Rhine is now about completed, and the character and quantity of the wine for 1894 can, to a great extent, be estimated, though not with absolute certainty. It is generally conceded by all that the wine for 1894 will not, in any respect, come up to that of 1893, either in quality or quantity, owing to the unfavorable weather since the blossoming of the vines. We had some nice, sunny days about the middle of September that awakened hopes that, with the help of fine autumn weather, the grapes might yet reach a satisfactory degree of maturity, but these hopes were blasted; the rain and low temperature returned, seriously retarding and damaging the growth, and where the berries lay thickly on each other, causing the wet rot, which soon spread alarmingly and necessitated the commencement of the vintage much sooner than was at first intended to avoid further loss.

So far as can be now judged, there is great diversity in the harvest (though, on the whole, very inferior in quantity), owing to the above-mentioned wet rot. As to the quality, the characteristic of this year's vintage is the great deficiency in sugar, owing to the imperfect ripening and unequal development of the berries. The influence of the weather at the time of the vintage must also be taken into consideration.

In the Rheingau, the Burgundy grapes at Assmannshausen have already been plucked and have only produced a one-eighth vintage on account of the rot, which reduced the result about 25 per cent.

The quality suffered greatly from the quantity of rain, so that, after sorting decayed grapes, which are used for mixed wines, the sweet wine (must) from the best sites weighed but 88° Oechsle. Unfortunately, the white wines in the Rheingau will turn out very poorly, partly from the failure of the blossom and partly from the wet rot, and will yield less than expected. As far as can be judged, the vintage in the Rheingau will vary between one-tenth to one-fifth of a full harvest, and in the upper Rüdesheim vineyards, between one-sixth and one-fifth of a harvest.

In Geisenheim, Oestrich, Winkel, and a part of Hallgarten, Mittelheim, Rauenthal, as well as in Hochheim, the grapes are very scarce. Hattenheim, Erbach, Kiedrich, and Eltville are somewhat better off, but a part of Hallgarten, the neighboring Steinberg, Gräfenberg near Kiedrich, and the Neroberg, where the grapes blossomed toward the end of June, have about the best harvest. As to the quality, the Rüdesheim wine promises to be good in case the weather remains fine. On the whole, they expect a middling wine thereabouts. The higher up the Rhine the vineyards are located, the fewer hopes there are, judging from the present degree of ripeness, and the grape-growers will be glad if their wine does not turn out too sour.

In Rheinhessen, the early Burgundy and the Portuguese grapes have been already gathered, and in some villages, such as Ober Ingelheim, Ockenheim, and Bridesheim, the quality reaches 80° to 90° Oechsle, and in quantity results satisfactorily, but in other places, only the quality of the Burgundy is satisfactory. In other better known places, such as Nackenheim, Nierstein, Laubenheim, Oppenheim, and Gunter's Clum, the white grapes were gathered sooner on account of the wet rot having set in, and weighed 60° to 90° Oechsle, with 10° to 14° acidity.

In many districts, half a harvest is expected, possibly a little more, but in many parts, much less. For instance, in one of the most important wine-growing districts in the best cultivated vineyards, comprising 45 acres, the product is estimated at only 10 stück of wine (3,000 gallons) besides containing a high degree of acidity. In the district around the Moselle and the Saar, there are better prospects, owing to the more perfect flowering of the Riessling and Austrian vines in spring. On the other hand, the rainy weather, combined with a low temperature, has been more hurtful in this region, where the climate is much colder, especially in the flat-lying land, where the grapes have remained partially unripe. There has also been much damage through *oïdium* (falling off of the leaves). On the upper and middle Moselle and the Saar, the grapes were gathered a little sooner, the rot having set in, and in many localities, such as at the Ruwer, in Graach, Berncastel, Lieser in the Brauneberg district, and at Wietingen, the general vintage has begun. Thereabouts, the result varied between one-third to one-half a harvest, and in the best localities, the wine weighed 90°, with a considerable degree of acidity. Some owners of the most renowned and highly cultivated vineyards, who generally make a point of putting up their best wines at the auctions, have this year preferred to dispose of them from the press, instead of keeping them for bottling purposes.

Where Kleinberger vines are grown, the product is unusually small this year in consequence of the imperfect blossoming of this species. In the Rheinpfalz, the vintage of the Portuguese grapes has been much injured by the constant rains, and, although the quantity was satisfactory, the wine could only be disposed of at very low prices. In consequence of the above-mentioned wet rot, the vintage in all the chief wine-growing districts took place at an unusually early date.

According to the results, the vintage in the upper Haardt district with a three-quarters yield is alone satisfactory, whereas the vintage of the lower Haardt district is, in regard to quantity and quality, unusually poor, as, for instance, at Deidesheim and Gorst the product averaged one-tenth to one-eighth of a full harvest. About the middle of the Haardt district the grapes were observed to have reached the most perfect degree of ripeness, and weighed 70° to 85° Oechsle, in some places even more, but always with a high degree of acidity. In various parts, the *peronospora* and *oïdium* occasioned much damage. Traminer and Austrian grapes were the most productive.

The transactions in the sale of wine, therefore, proved to be very stagnant at the beginning of the season, and in autumn, brought very low prices for new wine, which only gradually, and chiefly in the Rheinpfalz, became more animated. On the other hand, the demand for old wines, especially for 1893 growth, increased, and of the latter, chiefly on the Moselle and the Saar, as well as in the Rheinpfalz, large sales were concluded with livelier and rising prices.

PERRY BARTHOLOW,
Consul.

MAYENCE, *November 1, 1894.*

GOVERNMENT GRAIN ELEVATORS IN RUSSIA.

The Russian Government is contemplating the erection of grain elevators along the Government railroads in the grain districts. At first, such elevators will be built only at stations from which more than 200,000 poods (a pood equals 36.11 pounds) are shipped, leaving the stations with less than that amount a field for private enterprise. Each elevator is to have a capacity of 40 per cent of the average quantity shipped annually. In this way, the farmers will be able to place a total of 79,000,000 poods of grain in store.

THEO. M. STEPHAN,
Consul.

ANNABERG, *October 20, 1894.*

NOTES.

Commercial Attaches.—According to the Revue du Commerce Extérieur, of Paris, November 3, 1894, administrative circles in France are discussing the expediency of erecting a new class of civil officers entitled "commercial attachés," and stationing them at the embassies, legations, and chief consulates-general of France.* The plan was originated by Mr. Paul Doumer, a member of the Chamber of Deputies, who addressed recently a circular to the French chambers of commerce requesting their views on the subject. The commercial attaché is to be independent of the Ministry of Foreign Affairs, and, consequently, not officially subordinated to the diplomatic or consular officer of the embassy or consulate, respectively, to which he is attached; nor will he require an exequatur, having no administrative functions. His special duties are to consist in keeping himself thoroughly informed of all economical, industrial, agricultural, and commercial conditions of the country in which he is stationed, and in bringing this information to the knowledge of the proper home ministry, which, on its part, will make use of it in the interest of French commerce. The French Chamber of Commerce at Constantinople is strongly outspoken against this proposed innovation, and claims that it will not tend to further French trade to any greater extent than under the present system, where the subject is left in charge of a corps of trained and experienced consuls, especially as it is suggested, under Mr. Doumer's plan, to recruit these commercial attachés from a class of younger men of little practical commercial experience. The Revue du Commerce Extérieur, edited by Mr. Paul Dreyfus, has published several interesting articles on the subject.

Proposed Intercontinental Railway Conference.—Consul Schramm, of Montevideo, under date of September 6, advises the Department of correspondence between himself and the Minister of Public Works of Uruguay, with reference to the subject of the proposed Intercontinental Railroad. In his letter, dated August 23, the Minister, Mr. Juan José Castro, writes to Mr. Schramm, transmitting a copy of the work entitled "Treatise on South American Railways," etc., which was compiled by him under instructions from the Uruguayan Government for transmission, with a map, to the World's Fair, Chicago. He says that the book and map will show the important part Uruguay will have to play in the great work of establishing international communication between the countries of the western hemisphere. He ex-presses the opinion that the Intercontinental Railway project will result in establishing direct communication between the United States of America and Canada to the estuaries of the River Plate and Chile, and that the Interoceanic Railway of South America will reduce the time from the Pacific, the River Plate, and Brazil to the European continent and Great Britain. Mr. Castro adds:

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*See CONSULAR REPORTS No. 166 (July, 1894), "Commercial Reports to European Governments," p. 451.

> Uruguay has deemed the most efficient means to aid this enterprise in a practical form to be the publication of a comparative statement of the railway systems extending through the countries of Peru, Bolivia, Chile, Argentine Republic, Paraguay, Brazil, and Uruguay, the authorized (railway) extension of which already amounts to 80,000 kilometers, of which 32,000 kilometers are built, 11,000 kilometers are under construction, 13,000 kilometers are under survey, and 24,000 kilometers are to be surveyed. In this network of lines, the Intercontinental Railway will find an expeditious means of extension from La Plata, Bolivia, to La Paz, Sucre, Asuncion del Paraguay, Rio de Janeiro, Montevideo, Buenos Ayres, and Valparaiso, traversing regions of the greatest richness, full of variegated products of the fauna, flora, and mineral kingdoms.
>
> It is to be expected that these enterprises will not be neglected by the countries interested, and that, in consequence, the 121,000,000 inhabitants of the continent will be able to tighten the ties of American confraternity by means of interchange and the most friendly relations. For the purposes of this great American work, the holding of a new international conference imposes itself as indispensable, be it in Washington or in one of the River Plate cities, in order to consider the most practical ways and means to bring the work to execution and the various other capital points, namely, technical conformity of the broad-gauge service and of the rolling material, service, etc., systems of accounting, bonded transit, etc. Uruguay—of this you may rest assured—will not abandon the post of honor it is designated to take in collective action with the other American republics to effect the realization of the work which may be demanded of each, and which, there can be no doubt, will have a powerful influence upon civilization and the development of the industries and commerce of the new world, the fundamental basis of its great future and aggrandizement.

A German Expert on American Beer.—Dr. Delbrück, principal of the Brewers' School in Berlin, a private establishment, was sent by the German Government to the Chicago Exhibition to study beer and brewing. As he found only scant material there, he concluded to study the great breweries of the United States. This he did, aided, as he gratefully acknowledges, by the liberality and hospitality of the breweries. In Nos. 6 and 7 of the Wochenschrift für Brauerei (weekly paper for brewing) of this year, he gives a sketch of his travels, which included the Pacific coast, in which he bestows high praise on American breweries, their methods, and their buildings. Of both of these, he proposes to treat in separate papers. He had an opportunity of drinking beer made exclusively of corn, which he found excellent in taste, although, in his opinion, by no means equal to that made from barley. His interest in this beverage was so great that, after his return to Berlin, he instituted a series of experiments in the brewing of corn beer, which seem to deserve attention. American farmers would obviously be interested if the production of corn beer were established as a general industry.

Cuban Sugar Exports.—Under date of November 5, Consul-General Williams, of Habana, transmits the following statement showing the exports of sugar from Cuba during the nine months ending September 30, 1894:

Exports to—	Quantity.	Per cent.
	Tons.	
United States	960,637	94.36
Canada	24,372	2.40
Spain	22,491	2.21
Great Britain	10,528	1.03
Total	1,018,028	100

"These statistics," adds Consul-General Williams, "are interesting from the fact that they show the United States to be the natural market for the sale of Cuba's sugar crop."

Duty on Leather Belting.—Consul Plumacher, of Maracaibo, under date of October 26, sends the Department the copy of a resolution of the Venezuelan executive fixing the duty upon leather belting for machinery. Following is a translation:

> Resolved, The Government councilor, encharged with the presidency of the Republic, in use of the authority given him by article 10 of the import tariff law, has determined that sole leather in the form of belts for steam machinery shall be scheduled in the fourth class (15 cents per kilogram), the same as belting of rubber or woven stuff.

American Clocks for Singapore.—Consul-General Pratt, of Singapore, under date of September 25, 1894, reports to the Department that a well-known Singapore firm of long standing has informed him that, if afforded the necessary facilities, it can greatly promote the trade in American clocks, etc., throughout that region. With that object in view, the firm has requested Mr. Pratt to transmit to an American clock company a letter proposing to act as its sole representative in Singapore, or failing in that, to sell its manufactures by special arrangement. Accompanying the letter is an order for a number of clocks.

Business at Memel.—The report of the consul of the Netherlands at Memel, Prussia, for the year 1893, contains a résumé of the condition of agriculture, industry, shipping, and commerce in his district. Shipping has slightly increased, and the factories have been generally busy and run with a profit. The crops, however, were unsatisfactory and trade dull, the total amount of business done being 1,500,000 marks ($375,000) less than in the preceding year. (Consular Reports of the Netherlands—Consulaire Verslagen—September 26, 1894.)

Mining Industries of Australasia.—In Consul-General Maratta's report upon the "Mining Industries of Australasia," on page 410 of No. 170 (CONSULAR REPORTS for November, 1894), the word "chlondes," which occurs in the twelfth line, should be "chlorides."

Consular Reports Transmitted to Other Departments.—The following reports (originals or copies) were transmitted during the month of November to other Departments for publication, or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Theodore M. Stephan, Annaberg.	Oct. 16, 1894	Diseases among farm animals in Germany.	Department of Agriculture.
Thomas L. Thompson (Minister, Brazil)	Oct. 1, 1894	Value of Brazilian milreis.......	Director of the Mint.
Stewart Keightley, Newcastle, N. S. W.	......do	Reports of Departments of Agriculture and Forestry, and Mines and Agriculture.	Department of Agriculture.
Eugene Germain, Zurich.........	Oct. 24, 1894	Swiss chemical agricultural station and Swiss seed control station.	Do.
Wm. Gibson, Glasgow............	Oct. 26, 1894	Agriculture...........................	Do.
E. Schneegans, Saigon...........	Oct. 6, 1894	Rice market..........................	Do.
Eugene Germain, Zurich.........	Nov. 2, 1894	American railways................	Interstate Commerce Commission.

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